

# ALTEUM

WHITEPAPER

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## ALTEUM: A NEW FINANCIAL ECOSYSTEM ON THE BLOCKCHAIN

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**ABSTRACT.** The theoretical introduction of Bitcoin (BTC) by Satoshi Nakamoto in 2008 led to it being the first example of a token or a digital asset with no intrinsic value and no institutionally centralized backing to gain worth through the use of a self-sustaining, trustless network, one that we now recognize as the blockchain. Since then, the digital asset has entered market valuation and transformed into an increasingly profitable cryptocurrency speculative business, meanwhile, the blockchain technology underlying these assets has begun to be used in other fields, its applications growing at an unprecedented rate within a very short period of time. There are currently trillions of coins and digital assets in circulation, backed by a myriad of start-ups and corporations, which have added operational complexity for those interested parties that are willing to become active participants in this developing arena of cryptoeconomic systems. The technical knowledge required and the vague legal space that crypto-assets currently reside in have increased costs and the potential of being victimized by scams and frauds. What the Alteum Foundation intends to provide is solutions to these problems, and to set up a network with smart infrastructure throughout all emerging markets in Latin America in order to facilitate access to the new economic systems being built for those individuals that have historically been disenfranchised. A part of our unique proposition is tailored to investors with a medium to high-risk tolerance, but our main goal is to expand beyond investors to the average person that does not have access to banks and other institutions, allowing them to become participants at an early stage in this industry, one that has an exponential growth potential in the years to come. We envision a transnational financial network throughout the region, supported by our four distinct pillars of "Business" "Development" "Growth" and "Exchange", entities whose interactions will be based on the blockchain technology that we will be developing. We believe that this Foundation is set to reorganize all of the old institutions and all the old inefficient mechanisms that have weighed on and impeded the possibility for true economic development.



# INTRODUCTION

The road to the creation of a digital cryptocurrency has been full of hundreds of failed attempts. The concepts behind the creation of a digital coin have been around since the 1980s, with David Chaum's *blinding method* using early cryptographic applications to encode transactional information. This continued with development of *Digicash* and *Ecash* in the early 1990s, soon followed Wei B Dai's *b-money* and *PayPal* in 1998, Hal Finney's *reusable proofs of work* in 2005, and Nick Szabo's *BitGold* in 2005 (Narayanan, Bonneau, Felten, Miller, & Goldfeder, 2016.) The publication of the Satoshi White Paper in 2008, and the subsequent release of the *Bitcoin* open-software in 2009, soon led to the adoption of this new transactional system, one that combined the use of *time stamping*, *proof of work*, and *incentive mechanisms* in order to create a self-sustained distributed ledger network run through trustless consensus. The adoption of Bitcoin gave way to the rise of Altcoins with Litecoin (2011) and Dogecoin (2013) being amongst the first to begin to trade in newly created cryptocurrency markets, existing outside traditional banking and government institutions. As [Altcoin](#) selection and total market capitalization of cryptocurrencies grew, so did the market industries surrounding them, and as such, institutional entities have grown increasingly wary of the threat that decentralized digital currency systems may pose to their financial and socio-economic infrastructures.

## The Digital Economy

Cryptocurrencies are an entirely new asset class, one that the modern market hasn't seen before, and like any industry still in its infancy stage, it will continue to experience tremendous innovation, evolution, disruption, and exponential growth over the next few decades. It has become increasingly evident in these past few years that there is an incredible market potential for cryptocurrencies. Our estimates predict that the Total Market Cap could well be worth over 5 Trillion USD by 2025 (Figure 1.1) if current growth holds constant, of course.

### TOTAL MARKET CAP IS EXPECTED TO BE WORTH 5 TRILLION DOLLARS IN 2025

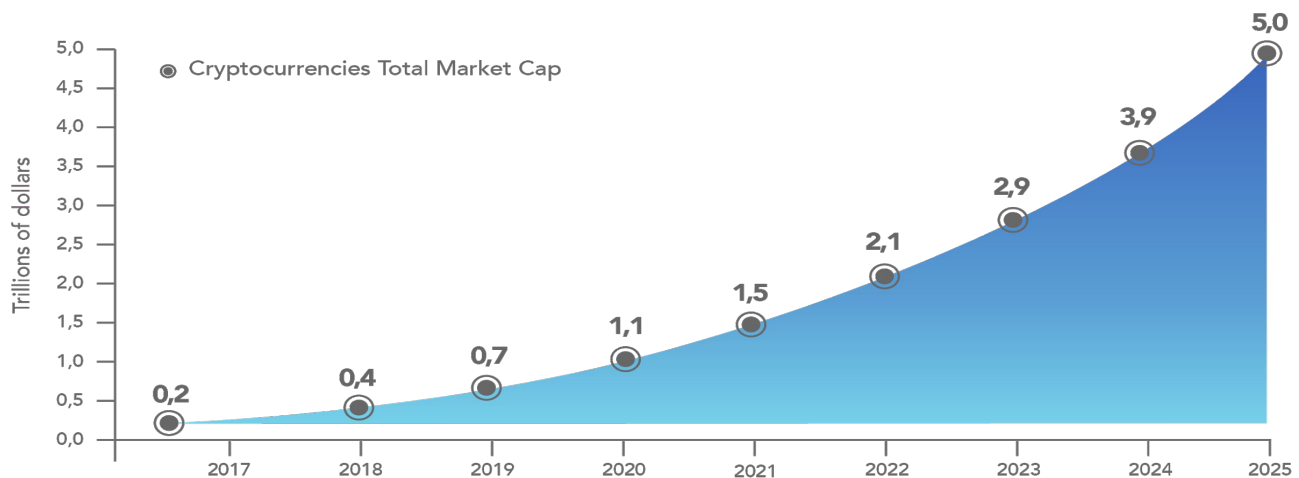


Figure 1.1 - Cryptocurrency Total Market Cap



# INTRODUCTION

Some critics and experts have warned of a Bubble, and yet the substantial growth that we have seen seems to go beyond the traditional timeframe that market bubbles usually take to develop, leading some to say that we may be witnessing the “Biggest Bubble of Our Lifetimes” (Bloomberg, Katz, Verhage, 2017.)

While this may well be true, basic sociological models could indicate otherwise, in that the cryptocurrency market is not in a bubble, but rather following the generic *S-curve pattern* seen in most technology adoption life cycles. These type of models describe any acceptance or growing adoption of a new technological innovation, usually based on psychographic characteristics of previously noted adopter classes. Generally, S-curves patterns such as these are seen to become more compressed as technology advances and production becomes more widespread, which can then lead to a more pronounced vertical growth adoption phase (Christensen, 1992.) Throughout the 20th century, every major mass-market technology that has experienced near-universal adoption, has also gone through a growth trajectory reflecting an S-curve form, and we believe that cryptocurrency adoption pattern seems to fall into this category.

Despite criticism of bubble potential, and despite the recent dips seen in early 2018, one should be able to differentiate between the future growth of the industry and the current valuation of its largest player: Bitcoin. Thus far, the market has been fueled mostly by speculators, and the observed price volatility is evidence of the fragility of these markets—yet it should be mentioned again that this is an industry in maturation and if Bitcoin and the Cryptocurrency market are indeed following a standard S-curve, then the short-term rates of adoption (typically sales to new customers or new investors in the market) are expected to be highly volatile.

When the technological adoption reaches a plateau, as seen in a typical S-curve, then volatility will decrease. Currently, Cryptocurrency ownership is estimated to be around 0.5% (possibly around 40 million users), so if this market is indeed following a standard S-Curve, we expect that there will be a massive exponential increase towards the end of the mass adoption phase, which will make all current exuberance and volatility look unremarkably small in comparison. The trend so far appears to be following a typical technological adoption curve with its current rapid pace, and it seems all but certain that at some point in the near future, cryptocurrencies will be incredibly common, and we expect they will be used by mainstream consumers due to the myriad of benefits they provide over traditional fiat currencies.

There are currently over a thousand cryptocurrencies along with numerous services providers to the industry, but as the current rate of adoption demonstrates, we are still some years away until this technology become part of the daily life of the average consumer. However, this new way of organizing economic communication between parties through decentralized and trustless consensus implies a disruptive change in our social and financial systems, which in turn may present a very real existential threat to those entities that do not adapt and accept the change that is coming with a new digital economy.



# INTRODUCTION

## Blockchain

The ideas behind the blockchain can be traced back to a 1991 paper by Haber and Stornetta where a method for the secured timestamping of digital documents was proposed (Narayanan, Bonneau, Felten, Miller, & Goldfeder, 2016.) The goal of timestamping was to provide *when* a document came into existences, conveying the order of creation of these documents, implying an innate security property as a timestamp could not be retroactively modified.

Satoshi's use of timestamping incorporated this design to not only create digital signatures, but also to mark and approve each transaction through proof-of-work mechanisms that could be recorded in a distributed ledger of continuously hashed "blocks." This was the creation of the blockchain, a public registry of all transactions that have been executed since the creation of the first genesis block. Each block contains a cryptographic hash of the previous one created, containing the timestamp and all transactional data, approved by all the nodes in the network. Satoshi's intent was for the system to be inherently resistant to any modification of the data, and thus ensure trustless cooperation and continuation to occur.

The blockchain is not only secure by design, but it also managed to achieve decentralized consensus, solving the *Byzantine General's Problem* (Byzantine fault tolerance) and the *double-spending problem*. The blockchain has been described as a value exchange protocol (Bheemaiah, 2015), as it can transact valuable information, implying that it can be used to represent any number of digital assets. This means that it can be integrated in a variety of different areas, and therefore carries the possibility to change traditional business models, with the added potential to create entirely new foundations for global socioeconomic systems.

***"Blockchain will do for transactions, what the internet did for communication."***

**-ALTEUM CEO, Victor Navarro**

Therefore its innate characteristics promise to bring about disruptive change, as the organizational structure of our institutions is set to be completely transformed. Some even go so far as to believe that blockchain technology has the potential to change the very fabric of our society. But whatever the case may be, the technology has arrived with cryptocurrencies, and it appears that, at least for the time being, it is here to stay.



# INTRODUCTION

## Digital Currencies and Assets

Cryptocurrencies, as their name suggests, are largely based on cryptographic designs. While modern cryptography is still largely a theoretical field, cryptographers use mathematics to define “primitives, protocols, and their desired security properties in a formal way, and to prove them secure based on widely accepted assumptions about the computational hardness of specific mathematical tasks.” (Narayanan, Bonneau, Felten, Miller, & Goldfeder, 2016.) Cryptocurrencies then have security measures, ones that prevent manipulation of information within the system, like providing different statements to different people. Unlike traditional fiat currencies, which are backed by legal rules and structures (which may be hard to implement at times) the security rules of cryptocurrencies can be enforced technologically by the use of cryptographic mathematics, without the need to rely on a central authority for arbitration. As already stated, cryptocurrencies use a distributed network to enable a peer-to-peer transaction system without the need for a third party.

Cryptocurrencies can also be described as digital assets, and they in turn can be known as tokens. Yet they are not one and the same. They are all, however, digital exchange media that use cryptography and shared public accounting records or blockchain. These features allow digital coins/tokens etc. to be secure, traceable and anonymous.

Digital coins (tokens) and other cryptocurrencies can be backed by the strength and size of a system (like Bitcoin) or by the start-up/company value that is behind the creation of the system (e.g. Ripple, XRP.) They are not legal tender, as they are not backed by the promise of a government or a financial institution. Still, like all currency systems, they depend on their perceived value, and their scarcity is based on mathematics, dependent upon the basic economic rules that each system decides to set upon its currency.

Most crypto-assets are not tied to the availability of physical goods, such as gold, nor are they subject to government monetary policies and deficit spending (at least, currently.) However, the basic demand-supply laws of economics can be applied with regards to controlling scarcity and value. In fiat currencies, organizations like central banks control the money supply, and it is these that create legal anti-counterfeiting features to the physical currency, while cryptocurrencies enforce various cryptoeconomic security properties to prevent cheating.

The fiat security features make counterfeiting difficult, but not impossible (as was the case seen with North Korea allegedly creating millions of fake USD.) Ultimately, the entire batch of bills would need to be replaced, an inefficient and expensive endeavor to undertake. In comparison, to fake a digital currency transaction would require compromising and changing the entire blockchain, an act that is mathematically improbable, but still theoretically possible with the advent of quantum computing. Therefore, it stands to reason that digitally encrypted currencies are more secure, and objectively superior transactional systems.



# INTRODUCTION

## Digital Future

The Digital Future that we envision is a multilayered one, as a number of situations could develop that may alter the course of the markets. Overall, we believe that there are currently four major good reasons to invest in cryptocurrencies and in the blockchain technology behind them: *First*, because investors would want to hedge their net-worth against a possible long-term dismantling of the Petrodollar global Forex imperium, due to rising Dollar inflation, unsteady global politics, and unsustainable US debt, which could mean the end of US Hegemony, a fact assumed by many world-renowned economists to inevitably happen at some point in the near future. *Second*, to diversify investment across a variety of uncorrelated markets in order to mitigate exposure and risk in the event of a sudden market downturn. *Third*, to gain access to above-average market returns on their investment, sums that in 2017 saw an average of more than 1,500% returns, and as such, to lessen the opportunity cost in not doing so. *Fourth*, to maximize marginal profits taking advantage of the cryptocurrency market volatility that isn't normally experienced in mainstream Forex markets. In short, many investors would seek the following:

- **ECONOMIC HEDGING/LONG-TERM INVESTMENT**
- **INVESTMENT DIVERSIFICATION AMONGST UNCORRELATED INDUSTRIES**
- **TO GAIN ACCESS TO ABOVE-AVERAGE MARKET RETURNS**
- **TO MAXIMIZE MARGINAL PROFITS**

These reasons are in addition to what many in the cryptocurrency community already see as obvious: to be active participants in a decentralized method of exchange, one that many argue will revolutionize financial and economic systems at large—and this already goes along with investors' appreciation of the emergent blockchain technologies that are being developed by ICO-backed start-ups (ALTEUM included) followed by an indirect support of the social and political vision behind many of these cryptocurrencies.

Digital currencies have the potential to change the financial world and in many ways have already started to do so, showing unprecedented returns and industry growth. Bitcoin, as potentially the “biggest bubble of our lifetimes” was the first cryptocurrency, and is still the largest, most established, and has the best chance of achieving current adoption. But, that does not mean that there isn't any space left for variety. What we can learn from past market history, most notably the aptly-named *Dot-Com Bubble* and the *Internet Revolution* that started in the 90s with the creation of companies such as *eBay*, *PayPal*, and *Amazon*, is that while there may currently be an overvaluation of the market, that doesn't mean that all profitable and successful companies will necessarily fail. Most will fail, some will survive, and the market will correct—a fact that we can carry over to the plethora of start-ups and token networks currently being offered on the market. Yes, they are volatile, but as already mentioned, this is due to the fact that their total market cap size is still relatively small (currently 450 billion USD ), and the value of a mature currency ranges from \$ 10 million to \$170 billion (Coinmarket Cap, Feb 2018). As market capitalization grows, so will the stability of each coin, if they manage to survive that is. The diagram below demonstrates what we can take away from past experiences (Figure 1.2)



# WHAT WE LEARNED FROM THE INTERNET REVOLUTION

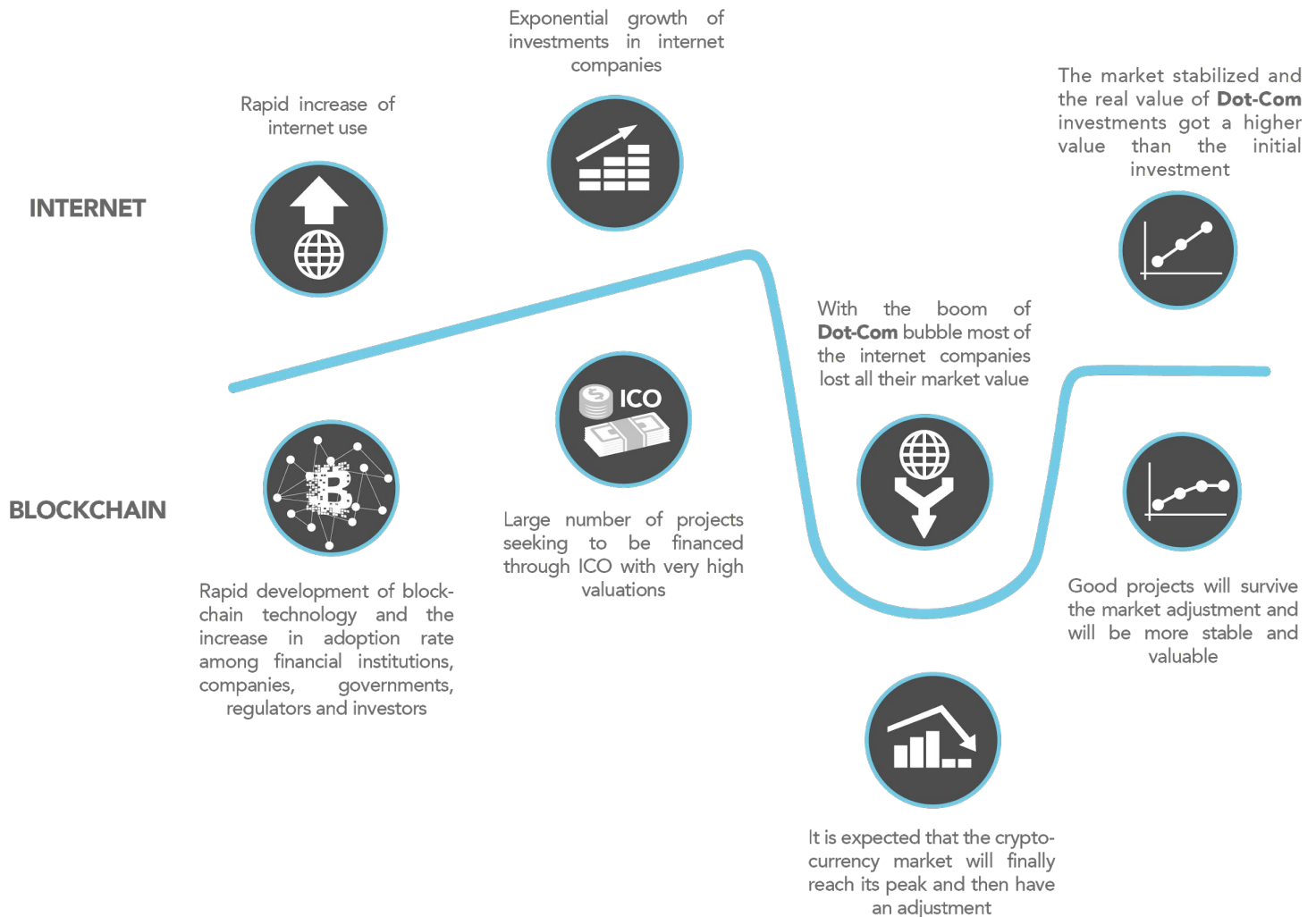


Figure 1.2 - Internet Market Trajectory

NOTE THAT INVESTING IN DEVELOPING TECHNOLOGY COMES WITH A RISK BUT THE EXPECTED GROWTH OF THE DIGITAL ECONOMY IS EXPONENTIAL.

THERE'S A SIGNIFICANT OPPORTUNITY COST IN NOT INVESTING IN THE FUTURE TODAY



# THE ALTEUM FOUNDATION

With all of the aforementioned things in consideration, we decided then to build an entity that would be an active participant in bringing about this new infrastructural change: ALTEUM.

Our team's solution was to create the ALTEUM Foundation, a network comprised of a smart infrastructure base, one that was able to connect all emerging markets in Latin America in order to facilitate access to the new economic systems being built for those individuals that have historically been disenfranchised. It has been said countless times that there is huge potential for growth in Latin America, with its wide array of natural resources and broad markets but corruption, mismanagement of national resources, and debt have plagued the region for centuries, stifling true economic growth. We believe that now, for the first time in our history, we have the technological tools to take that power back, to be able to fundamentally change the ineffective and oligarchic institutions that have continuously contributed to the region's underdevelopment. We will be the first firm in Latin America to develop a full end-to-end decentralized blockchain ecosystem, a world class blockchain ecosystem with latin roots, as we understand the culture and shared history that tie us all together.

We want to break the traditional and toxic currency paradigm that has been subject to manipulation by outside sources by inflation, debt default, and currency crises and promote the adaptation of a new digital economy, one that is based on and organized by blockchain technology. Through our Latin American digital currency AUM, we will carry out and promote different projects throughout the region using developing blockchain technology with the aim of implementing its many innovational benefits in Latin American countries. We see ALTEUM as a transformation vehicle and we invite all future investment partners to be part of the success in a simple, transparent, and safe way, accessible to all.

## OUR GOALS

- **Anchor the adoption of blockchain in Latin America.**
- **Facilitate access and use of digital currencies.**
- **Undertake and promote projects which provide benefits to society.**

A part of our unique proposition is tailored to investors with a medium to high-risk tolerance, but our main goal is to expand beyond investors to the average person that does not have access to banks and other institutions, allowing them to become participants at an early stage in this industry, one that has an exponential growth potential in the years to come. We envision a transnational financial network throughout the region, supported by our four distinct pillars of "Business", "Development", "Growth", and "Exchange", entities whose interactions will be based on the blockchain technology that we will be developing.



# THE ALTEUM FOUNDATION

We aim to maximize returns in the short and long terms, above the average of the traditional Latin American economy, which has experienced an annual GDP growth of ~2% (IMF, 2018) We aim to do this through the strategic investment of industry, interconnecting markets, and developing new areas for economic growth through the financial ecosystem that we are setting up. We believe that this Foundation is set to reorganize all of the old institutions and all the old inefficient mechanisms that have weighed on and impeded the possibility for true economic development.

The ALTEUM Foundation plans on carrying out projects that bring social and economic benefits to Latin American society. Its mission is to create urgency and to promote change at the most basic and structural level. All academic literature points to the fact that institutions drive long-term economic growth (Acemoglu, Johnson, Robinson, 2005) and the reorganization of these entities will surely bring about a fundamental change in the way that the economy is going to be run.

One of the main purposes of Blockchain and Cryptocurrencies is to benefit people by eliminating high costs of financial transactions from banks and other financial institutions. This does not only give them monetary empowerment, it also increases fluidity in transactions and can potentially propel a country's economy forward. We want to join this new economic revolution and be ambassadors for this technology, installing all of these innovational benefits in Latin America. We believe that the key for a successful transition to the digital economy depends upon the massive adaptation of the technology, regardless of one's background or social class.

For this reason, we are going to be allocating a percentage of the firm's profits to promote the adaptation of Blockchain and the use of Cryptocurrencies in Latin America, in order to raise awareness and help more people use and benefit from this technology. We will make specific efforts to educate people about Blockchain regardless their social class and age. We will involve NGOs and governments to join the change and hopefully, we will bring more accessibility to this technology in Latin American countries. With these, along with many more socially responsible activities, we hope to enhance people's personal wealth and consequently, improve the overall development of the Latin American economy.

**WE ARE BUILDING  
THE BIGGEST BLOCKCHAIN  
INVESTMENT NETWORK  
IN LATIN AMERICA**



# DECENTRALIZED BLOCKCHAIN ECOSYSTEM

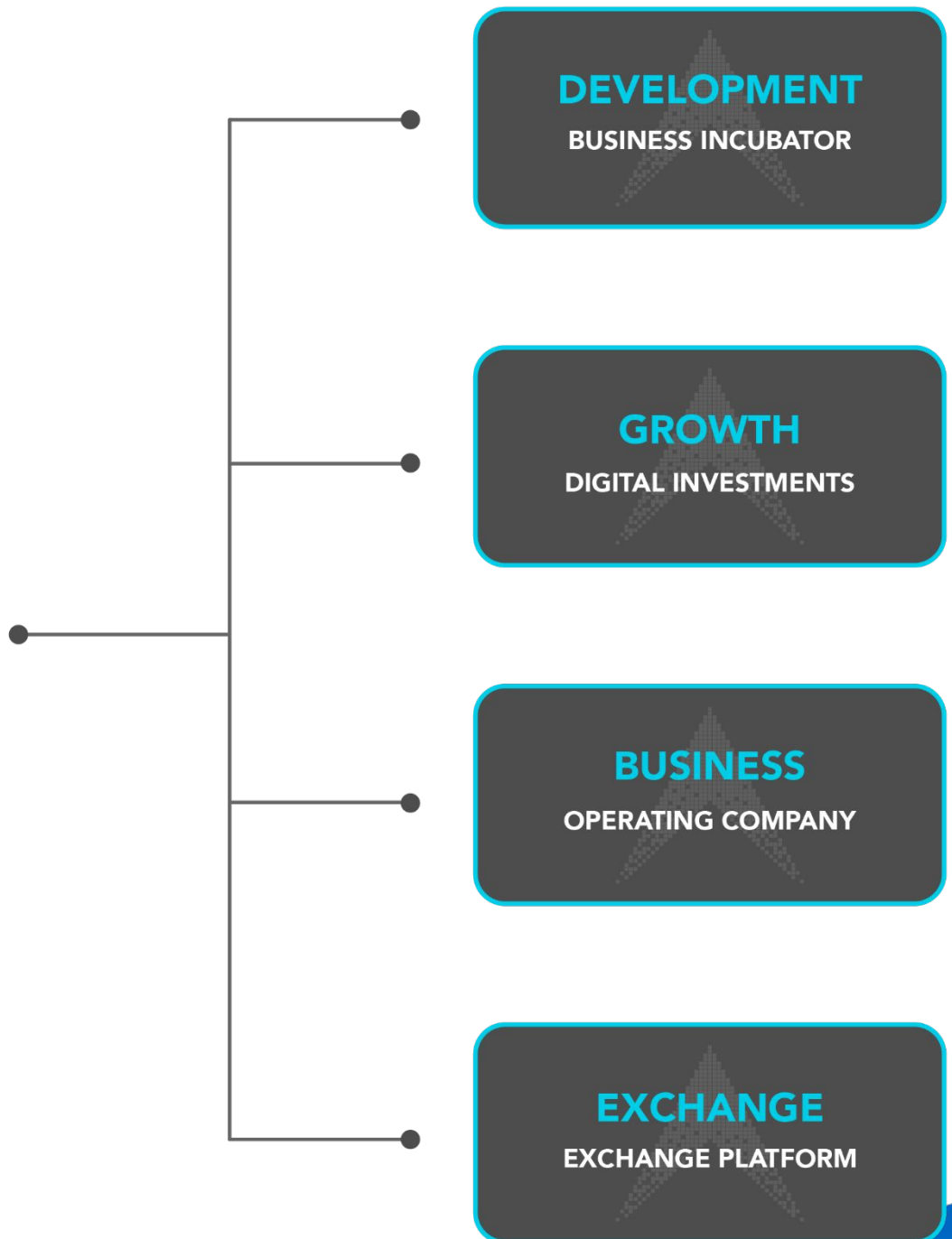
**ALTEUM**, has developed a Decentralized Ecosystem in which several projects will coexist that in turn will also aid in rapid appreciation of our AUM token.

The ecosystem core is composed of four autonomous pillars which interact and create balance for the firm: Development, Growth, Business, and Exchange, which will focus on projects that are a fundamental part for sustained long-term growth.

ALTEUM



AUM TOKEN





# DECENTRALIZED BLOCKCHAIN ECOSYSTEM

## AUM & The Foundation

ALTEUM, as the organizational entity of its quadripartite foundational model, has offered AUM Tokens in order to create economic communication within the decentralized financial ecosystem it seeks to develop. The four pillars mentioned in this White Paper: "Development", "Growth", "Business", and "Exchange" are meant to represent the different sections that will make up the Alteum System. "Development" refers to a Venture Capital-like group that will serve as an incubator and be making investments and loans in tech startups and blockchain based products, "Growth" refers to an actively-managed Investment Fund called Alteum Alpha, consisting of an Index-backed enterprise, Altcoin groupings, and individual client portfolios with specific positions in the cryptocurrency space, "Business" refers to the companies backed by Alteum that are expanding fintech innovation and generating revenue, and "Exchange" refers to the AlteumX Exchange platform partnered with Alteum where AUM tokens and other cryptocurrencies can be traded for fiat or other digital assets. The goal is to create a space in which several projects coexist that in turn will also appreciate the value of AUM tokens, one where the AUM Token is supported not simply by perception or speculation, but by the economy behind the four pillars which constitute it. The AUM Token will be necessary to enjoy the benefits offered by Alteum in that it will serve as a (1) Medium of exchange between each of its parts, (2) a measure of value that is underscored by overall company growth, (3) a unit of account that represents a share in diversified financial investments, and (4) a store of value that appreciates through company dividends. When asked to classify the token itself, we can surmise that due to these characteristics, AUM is an utility/equity hybrid, one which theoretically could also be able to function as a type of tradable entity, therefore its value is dependent on a multi-variable valuation. To explain the functionality of such a system, we should first examine the structures of a token-based economy, apply basic *Monetarist theory*, *Efficient Market Theory*, *Behavioural Economics*, and consider *Mechanism Design* (with its so-called crypto economic uses) in order to properly describe the production, distribution, benefits, and overall role of the tokens that are to be offered in this ICO process.

## The Token Economy & Valuation

As ICOs have become increasingly common in the crypto-space, so has their versatility in use and in the implementation of new economic ecosystems. We then begin to hear the phrase "Token Economy" being utilized a lot, a term that is actually borrowed from the field of Psychology, wherein a system is constructed to incentivize and modify behaviour through the use of tokens, ones that are used continuously as conditioned reinforcers. While most people within the crypto-currency space use the term to describe their own ICO-tokenized systems, there is a shared premise that exists between the original academic definition and the current one in development: that structures are being built with the mechanisms of tokens, and economic behaviour is being modified through them.



# DECENTRALIZED BLOCKCHAIN ECOSYSTEM

To be sure, an economic incentive analysis can be applied to any token-based system, which could be especially important when one is designing the protocol level in addition to the business side of such a system, a feat that is done in order to explore any economic vulnerabilities that this system may have (what can be described in Mechanism Design as being strategy-proof.) However, one should note that these new token-systems, while sharing a groundwork with basic economic structures, are actually developing entirely new ecosystems due to the newfound versatility of usage that is allowed through blockchain technology. Assets that are created on the blockchain have a very wide design space and can be constructed in a myriad of ways—allowing a token to have both transferable utility (serving as a medium of exchange) and tradable equity. A token can serve as a currency (and thus become an effective store of value) but it can also function as a security or even in some cases, as a commodity. This classification is important from an economic standpoint because it defines the role that a token has in the system and the extent of the implications its usage may have. Although there is a wide array of well-developed academic theory in economic and monetary fields, the study in their implementation towards these new crypto-token systems has yet to be seen.

*We are participating in a real-world experimentation of old-world concepts with new technology.*

To think about defining or classifying the Token Economy, one should first look at Modern Monetary Theory (MMT), which asserts that variations in the money supply have major influences in system output and currency value, of course, proponents of the theory also assume that an exogenous source of money, like the government, can never run out of money as it is the monopolistic supplier of the currency and can always produce more if need be. In Monetary Economics however, the ideal would be to keep the supply and demand for a currency at an equilibrium, to stem off both inflation and deflation influences. Then, it is possible that the Quantity Theory of Money (QMT), which states that the general price level of goods and services is directly proportional to the amount of money in circulation, can be applied to tokens if they are deemed to be a currency, and in this case, we can assume they are (due to the characteristics that AUM will have within this ecosystem.)

This would require an accounting identity to be utilized, which states that the value of transaction in a period (P) is equal to the amount of money within the system (M) times the velocity (V) which is the number of transactions within a given period:

$$P = MV$$

Therefore each token value (t) =  $P / MV$



# DECENTRALIZED BLOCKCHAIN ECOSYSTEM

Another version of this would be the more mainstream Equation of Exchange:

$$M * V_T = P_T * T$$

Where (M) is the total amount of money in circulation on average in an economy during the period, say a year, ( $V_T$ ) is the transactions velocity of money, that is the average frequency across all transactions with which a unit of money is spent (which is meant to reflect availability of financial institutions, economic variables, and choices made as to how fast people turn over their money), ( $P_T$ ) is the price level associated with transactions for the economy during the period, and (T) is an index of the real value of aggregate transactions (Froyen, 1990.)

**The theory above is based on the following assumptions:**

- The source of inflation is fundamentally derived from the growth rate of the money supply.
- The supply of money is exogenous.
- The demand for money, as reflected in its velocity, is a stable function of nominal income, interest rates, and so forth.
- The mechanism for injecting money into the economy is unimportant in the long run.
- The real interest rate is determined by non-monetary factors (Froyen, 1990.)

In this particular ambit, we can accept the first three assumptions, since the latter doesn't seem to be applicable. Therefore, if we are to implement this formulation into our AUM Token Economy, we can surmise the following:

$$PQ = MV$$

Where (P) is the overall price level of the digital resource being provisioned, (Q) is the total quantity being offered, that is, this particular economy's output (M) is the size of the asset base, and (V) is the velocity of transactions, the rate at which it changes hands.

However, our AUM tokens are not only to function as a currency, but also as a tradable dividend-creating asset, wherein we must therefore also account for the Present Value (PV) of a token's associated flow of dividends (Conley, 2017.) Supposing a token holder can expect the following stream of profits:

$$\pi \equiv \{\pi_1, \pi_2, \dots, \pi_T\}$$

And supposing that the opportunity cost of this capital is  $r\%$  ( $r$  as the rate of return to be earned on the next investment available), then we can attempt to value the token as follows:

$$\sum_{t=1}^T (1-r)^t \pi_t$$



# DECENTRALIZED BLOCKCHAIN ECOSYSTEM

However, since these tokens are to be valued according to the market, with all information taken into account, then we could also attempt to use Efficient Market Theory (EMT), (Conley, 2017) formally put forward as:

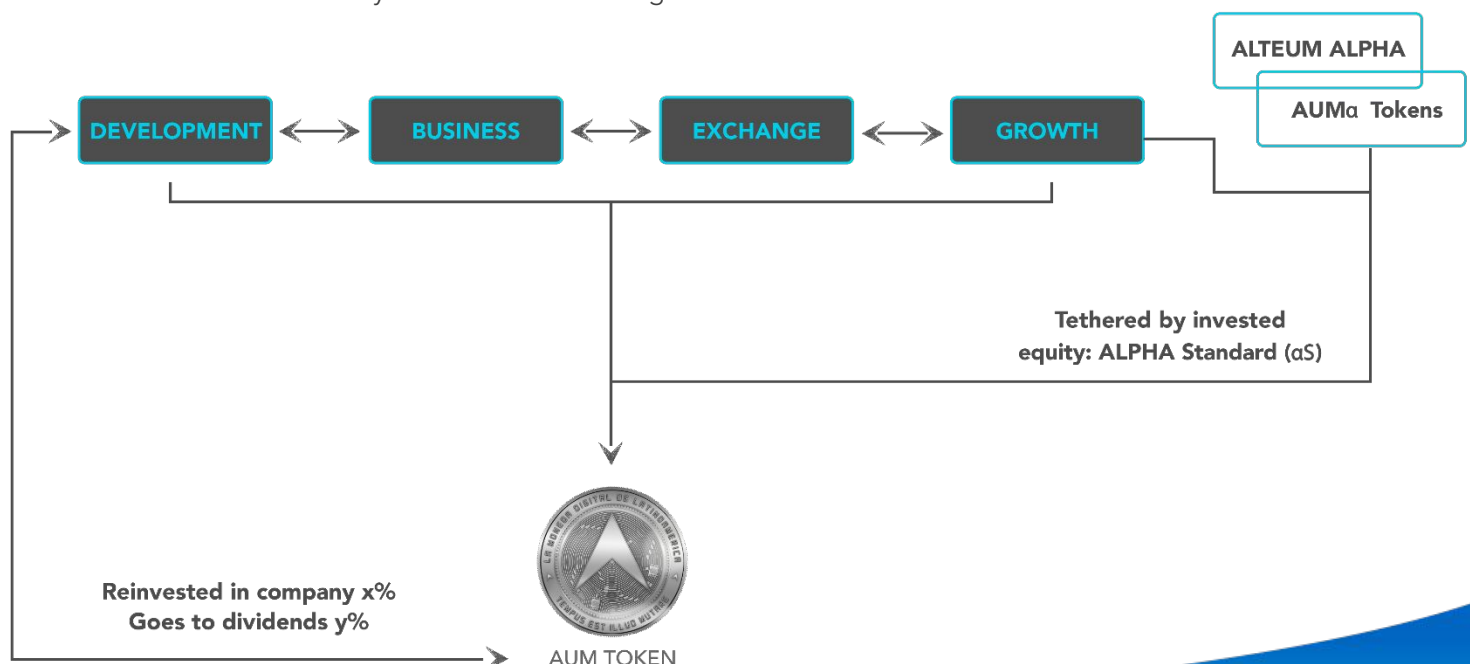
$$p_t = E(p_{t+1})$$

Then again, the tokens could also be valued with several other business valuation models, like the Treasury Method, Discounted Cash Flow, or other market-based valuation methods, even relative valuation using multiples. This is in addition to considering possible behavioral economic effects that could be seen within a variety of contexts.

We are aware of these ad hoc assumptions, but find them necessary in order to consider moving forward. While it is quite evident that the entire process is a complex one, what we can in fact deduce from all of these formulations is that our Token Valuation should not only be multi-variable dependent, but also one that takes all of the outputs of these functions into account, and attempt to correlate that to the real-world market value. Thusly, we will first have to observe the market reaction of the AUM Token, gather sufficient data, and then input that into our formulas, in order to do a worthy analysis—which we will be doing so in the near future.

## Building the Alteum Ecosystem

We must remember here, that this in many ways, is an economic experimentation using digital assets, and despite having theoretic foundations, we will be learning new things about the system as it continues to grow. For now, we have designed a new financial ecosystem, and given our AUM Token versatile utility, we expect this to be reflected in its value. The Token Economy which we have envisaged can be visualized here:





# DECENTRALIZED BLOCKCHAIN ECOSYSTEM

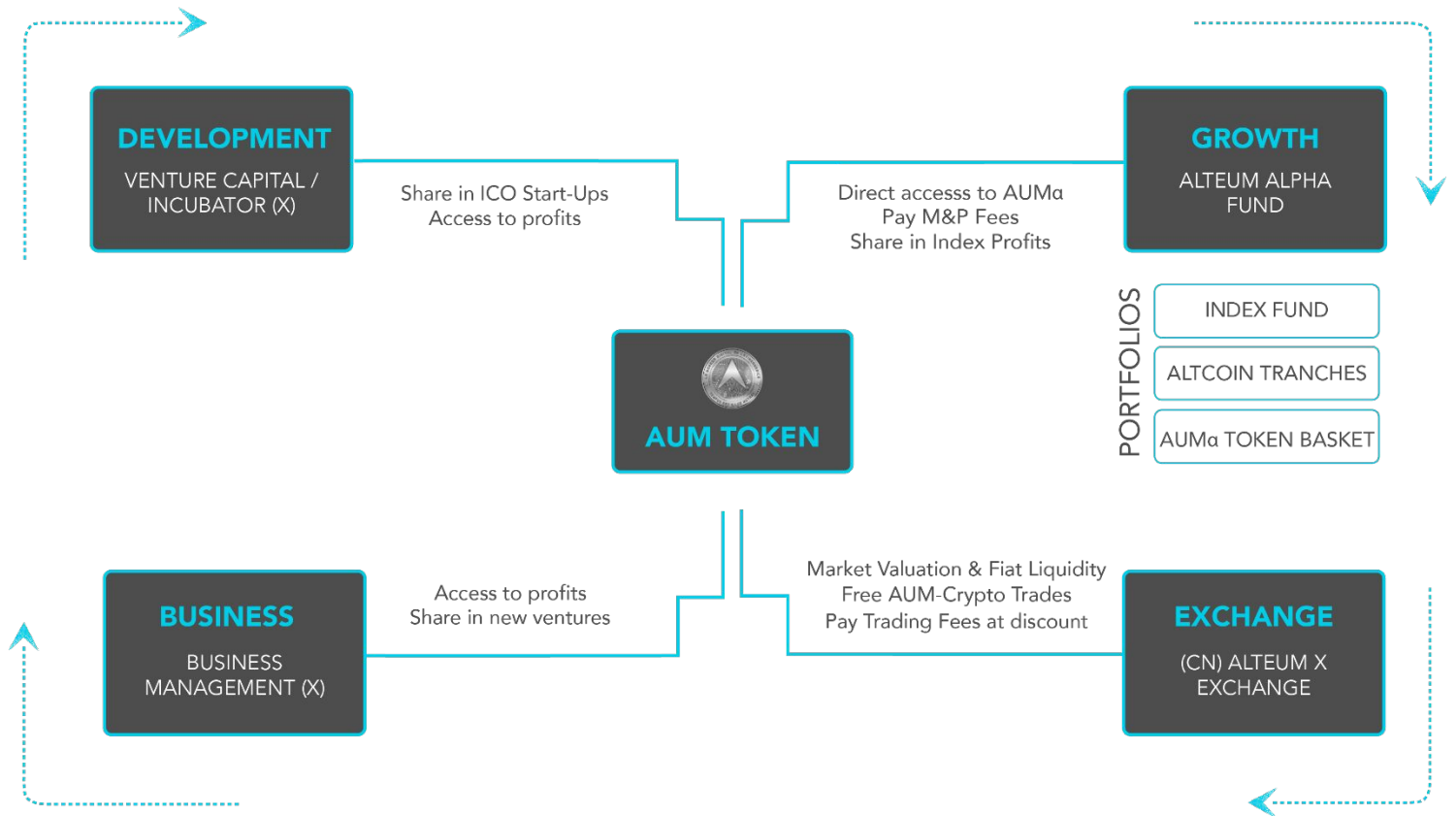


Figure 3.1 - ALTEUM Four Pillar Composition

The Left side, (Figure 3.1) labeled INVESTMENT and BUSINESS are meant to be the sources from which the AUM dividends come from. To compare, the Right side, (GROWTH and EXCHANGE) are where the AUM token is to be subject to market valuation, experience usage, and subsequently, growth in its network. The revenue stream that all token-holders will share in is dependent on the amount of traffic the system has, which will ultimately sustain growth and create more revenue streams that then tie back into the system as it gets reinvested and redistributed. What quantities will be reinvested in the company, and what amount is to be distributed amongst the holders is dependent on market conditions which can be subject to lack of information, contributing to investor uncertainty and perceived risk, leading to speculation, which can leave tokenized-assets being overvalued or undervalued. This is partly why we are also introducing the AUMa Tokens (also based on the Ethereum Network) which will be available only to the ALTEUM ALPHA FUND investors, and can only be exchanged using AUM—a valuation that is to be set by the current equity held by the fund in both fiat and crypto-assets.



# DECENTRALIZED BLOCKCHAIN ECOSYSTEM

The ALTEUM ALPHA FUND (or AUM $\alpha$  Fund), like the ALTEUM X Exchange will also be accepting AUM Tokens from investors to pay fees, valued at a discount. We want this to incentivize trading and movement of the AUM, and thus allow the demand to play its role in the market. The level of fees however, will remain relative to a hypothetical issuance or burning of tokens in order to regulate any inflation (token depreciation) that we may see in the long run.

A group of professionals will be responsible for the incubation of and the investments in the best evaluated and most promising projects, however the Alteum Investment Committee is responsible for the selection of projects to incubate, based on the management team, their business model, industry opportunity and community, where we will support them with following:

1. Business model assessment
2. Token creation
3. ICO structure
4. Community development
5. Financing of the project

Keeping all these things in mind, we must not fail to mention Mechanism Design, as we believe the tools offered by this field have been and will continue to be incredibly useful in setting up our system.

We want to incentivize the user to take the correct actions (or the ones that are most beneficial to the ecosystem as a whole.) We can surmise that such an incentive will lead to a particular action, but behavioral economics has shown us that rationality in players (or agents) should not always be assumed. However, we will still be making attempts at inputting and analyzing social choice functions, induced by our specific mechanisms within the ecosystem.



# PROJECT ECONOMY MANAGEMENT

## Development

The Development (Investment) Pillar is designed to work as an incubator; the roles of the AUM Token and the Alteum Exchange are key in facilitating access for project exposure from the trading population in the Latam region. By doing this, Alteum will not only rely on projects that are being done independently, but also allow us to be able to create a strategic plan that will enable the creation of an ICO pipeline to feed our Exchange via the AUM Token. It is our current belief that a significant portion of Latin American projects remain largely untapped, while others may require experienced professionals to help them succeed. Some may not only need technical assistance, but also a committed team that understands their culture, economy, habits of living, and local needs. We have to be able to walk hand-in-hand in order to successfully undertake this journey and to make sure that we are introducing a high-quality token-offering and a reliable business model for all of our investors.

## Business

The Business Pillar represents an autonomous blockchain operating company whose main role is to operate and commercialize blockchain related products and services. Under this Pillar, we will activate models such as Alteum Energy, Alteum Health, Alteum Financial Services, Mining and ATMS, in addition to teaching, supporting, and introducing to both public and private organizations our own blockchain network. We believe it's time to radically change our traditional structures, as all available offerings and knowledge today will not be enough to properly deal with the blockchain technology and smart-infrastructure that is to be adopted in the coming years. We aim to be one step ahead by anticipating the inevitability of mass adoption. Latin American people are starting to realize the benefits of these technological innovations and we want to help accelerate their full understanding in order to improve the consumer and general population standard. By developing strategic partners globally, we will be able to expand our socio-technological footprint by being the blockchain provider of choice in the region.

## Growth

If we are to solely focus on the Growth Pillar of the AUM Token, then we must have it access new markets, find new applications for it, and hopefully, help build the foundations of a new investor class. Therefore we are envisioning our ALTEUM ALPHA FUND, "a fund of funds" that will be comprised of a passively managed Index Fund (with low fees), Altcoin Tranches (our groupings for cryptos according to perceived risk and reward), and our AUM $\alpha$  Token basket, which will be the underlying unit of measure for all our assets stored. The AUM $\alpha$  Tokens are therefore tethered to real equity, and since only AUM can be exchanged for AUM $\alpha$ , then AUM is linked to our AUM $\alpha$  Standard. We will be using trustless technology in the form of smart contracts to be able to issue AUM $\alpha$  Tokens in response to transnational events occurring in other blockchains and other markets that reflect their value. This is done to make sure value can in some way be tethered to a larger array of assets, and thus prevent too much volatility.

The ALTEUM Alpha Fund (or AUM $\alpha$  Fund) will be the umbrella fund under which the rest of the funds are covered by, and beneath which each type of portfolio will be allocated into. Like a traditional Hedge Fund, it will be run by a General Fund Manager, who will also be the Head of Strategy for the fund, meaning they will be making the overall decisions regarding the composition and direction of the Fund, as well as optimizing its smaller counterparts.

These three large grouped funds are described below. It should be stated that each of these funds will be supported by a Systems Team, alongside the Trading and Research Groups.



# PROJECT ECONOMY MANAGEMENT

## **MIRRORED INDEX FUND: ALICE**

Index Funds are generally considered safe methods of investment, as according to the Efficient Market Hypothesis, it is impossible to continually beat the market, and it has been demonstrated continuously that Index Funds tend to outperform most actively managed funds. As such, they are also cheaper when it comes to fees due to their more passive investment characteristics. An Index Fund generally moves or mirrors the overall market, and our Index Fund, called ALICE will aim to do just that. The ALICE Index will consist of a balanced pool of the top 20 (possibly up to 40) coins in the market (according to CoinMarket Cap), holding these assets proportionally to their value in the market as a whole. This way, investors can simply invest their resources in the already diversified pool instead of choosing specific coins to hedge. Note, most indexes are market-cap weighted, (versus price-based weighted) meaning that they place more value on those stocks (or assets) which have a larger share of the market, which at the time of this writing is Bitcoin (at around 35%, with 145B out of a total market cap of 416B.) What this means, in mathematical terms, is that the Index Fund's value will be significantly dependent on that of Bitcoin's, which may render the entire project moot. However, we have noticed a general reduction pattern in BTC Market Cap for 2017, meaning that if this trend continues, then BTC influence over the cryptocurrency market will gradually lessen, and the Index Fund can then be more democratically weighted.

We would ensure the Index is continually calculated in order to readjust value and to provide an accurate reflection of the market during any trading session.

With regards to equity or stocks, (as they are usually offered to investors who invest in any fund that holds and manages assets) we will offer our clients AUM $\alpha$  Tokens, (operating on the Ethereum platform) and will ensure general compliance through smart contracts. The Tokens' value will be reevaluated at the end of each day, in order to properly represent the value of their underlying assets (details of which will be explained in the Alpha Fund Whitepaper.)

The ALICE INDEX Fund investments will be charged a lesser management fee (of 0.25%, an industry standard), and any additional profit compensation will be aptly distributed as well (10%). More details regarding the ALICE INDEX Fund will be presented in a formal Whitepaper later on as the project continues to develop.

## **ALTCOIN TRANCHES**

In traditional finance, a tranche refers to a set of loans that have been bundled together, usually given a credit rating and resold on the secondary market. Each tranche is defined by its different maturity rates, risks, and possible rewards. Using this idea, we have set forth the idea of Altcoin Tranches, wherein we have divided the different Altcoins currently available on the market and grouped them according to predicted maturity rates, risks, costs, and possible rewards. Our Groups range from A to



# PROJECT ECONOMY MANAGEMENT

D, with A being the highest rated (and usually the most expensive to invest in, like BTC and ETH) and D being the lowest rated, in terms of market cap, and popularity (as well as being the cheapest, and riskiest to invest in.) We will also be providing a separate ICO Tranche, which will consist of investing in tokens that are not yet being offered on exchanges, and as such, are a different asset class of their own. This classification will allow investors to choose from an array of previously grouped coins, according to the level of risk they wish to accept. To represent their equity share in these Altcoin Tranches, we will be providing clients the option to tokenize their investment share with AUMa Tokens, each given a different tier in their valuation (e.g. AUMa A, AUMa B, AUMa C and so on) or to composite the equivalent amount in their portfolio if they wish to own a specific asset directly.

## **PORTFOLIOS**

A portfolio is a group of financial assets held either directly or indirectly by investors and managed by financial professionals, each strategy dependent on each investor's risk tolerance. We offer clients the option to set up their individual portfolios, with distinct investment strategies, advocating a certain percentage or amount into the Index, one of the tranches, or directly into an asset. The portfolios are to be actively managed, and as such, management fees starting from 1% (up to 2%) will be charged, in addition to an incentive fee at the end of each year (10% in the beginning, then 20%.) Each portfolio will be set up

according to a client's preferences, goals, risk tolerance, and investment size. This individualized approach will be seen as an added benefit to the fund, and to clients themselves.

## **TOKENIZED BASKET FUND: AUMa**

Tokens are being offered in the cryptocurrency world as a way to represent intangible value, which usually encompass blockchain based equity offerings. These tokens are often used as a financing tool for the new start-up, we however aim to take this in a different direction. We wish to offer investors the option to invest in our AUMa Tokens, which will be produced and based on the Ethereum platform, operating with the ERC-20 Token Standard. Ethereum based tokens rely on a well-established network infrastructure, benefiting from several advantages: security and solidity; transparency and robustness, well-supported transactions, enabled by the smart contracts that are featured on the system. AUMa tokens will available only through AUM, or in a direct FIAT purchase, as we do not mean to value these tokens on the marketplace, as usual ICO offerings go. Instead, we wish to peg these tokens in tiers to each fund's asset value in order to provide transparency to our investors and to solve any compliance issues through the smart contracts tool. The Tokenized Basket Fund will consist of all the assets being offered, represented in token-form.



# PROJECT ECONOMY MANAGEMENT

Every time an investment is made, the option is given either to tokenize a percentage into AUMa or to invest directly in crypto asset, the advantage to having AUMa is that each token represents a small percentage of a larger diversified whole. The supply of AUMa available depends on incomes and outcomes of the fund's capital. Every time an investment option is made, AUMa options will be given, and as such, the AUMa basket will continue to grow, This Fund will be used simply as a store of value, and the tokens utilized to avoid regulatory hurdles.

## **AUTOMATED BOTS**

Trading bots are computer programs that use various indicators to recognize trends and automatically execute trades. While algorithmic trading software has been used by hedge funds in the equity, commodity and currency markets, trading bots for private investors first appeared in the foreign exchange a few years ago, allowing them to back test fully automated trading strategies by having the bots running on scalable cloud software 24/7. The use of bots is recognized as a long-established and legitimate activity, and it has become ever more prevalent in the cryptocurrency markets, which is why we intend to implement automated bots to give our investors an edge up on their marginal trading profits. Note, this will be an option open to investors, to dictate a certain percentage of their funds to be tested out by a program of their choice, supervised of course by our Trading and Systems Teams.

Our particularly designed Bots will be available at any level of investment, however, we will recommend a test run period with the client first in order to ensure satisfaction.

Finding the balance between applying advanced analytical techniques and deriving insights from alternative data sets can be integral to a fund's growth. Therefore, the Alteum Alpha Fund also plans on utilizing artificial intelligence algorithms, along with the analysis of alternative datasets including gold forecasts and past asset movements. Part of our performance will be driven by artificial intelligence and alternative data, and we will be exploring utilization of these techniques more broadly across our business strategies.

In addition to the aforementioned products, we will also be offering the following services:

- *Advanced security (cold storage, multiple wallets, multisign, private keys, etc.)*
- *Support for a variety of digital assets and currencies*
- *Insurance (in certain cases)*
- *Impeccable levels of cyber and physical security*

The investment tiers would be very flexible, as the minimal investment option will be in the amount of a single AUM token (whether it be in a direct Fiat purchase of AUMa or not). This is partly due to it being the beginning stages of our fund, and our desire to cater to a wide variety of clientele. The upfront fee (entry fee) will vary according to the amount (but will be usually 0-3%), and where the money is being invested towards. However, there will be a liquidation fee, depending on the amount, time, and necessity of each case.



# PROJECT ECONOMY MANAGEMENT

## Exchange

The cryptocurrency ecosystem has been going through unprecedented changes—despite significant setbacks by hacks, a general lack of transparency, and several other issues seen within the many exchanges and trading platforms that are currently available.

With cryptocurrencies increasingly becoming an important asset class, trustworthy, transparent, and accessible exchanges are quickly becoming a necessity for users. We believe that current exchanges lack abilities to accommodate both small and large traders and investors, due to esoteric practices, high fees, and a lack of communication with their user base. In turn, this oligarchical approach limits cryptocurrencies' adoption and overall market potential.

Therefore, we want for ALTEUM Exchange's platform (AlteumX) to incorporate an internal private blockchain to safeguard users' information, and at the same time be able to provide full transparency and trust in a trust-less system. In other words, each token/coin that is exchanged on our platform will not only be confirmed by their network-based blockchain, but also by our own internal blockchain-based mechanism, one that will serve as an added layer of protection for our users, and one whose transactions will be made readily available to the public. These innovating features, along with the new financial products that we are offering (in partnership with ALTEUM ALPHA Fund) will make our exchange secure, transparent, fair, trustworthy, and most importantly of all, profitable for both our investors and our customers.

Unlike most traditional exchanges, AlteumX will allow traders and investors of all sizes and backgrounds to be able to participate and enter the crypto landscape, which we hope will ultimately help enlarge the crypto-community in Latin America, a market ripe with potential. We aim to target these emerging economies through our ever-growing fiat gateway options made readily available in each of their national currencies, helping to create new groups of crypto enthusiasts, by guiding them and introducing them to new empowering opportunities offered by the tokenized and blockchain-based economic systems.

Our ultimate desire is for AlteumX to become the number one exchange in Latin America, by creating new fiat gateways in all Latin American countries, and developing a stronger presence in the regional communities by giving people access to new methods of wealth management, especially those that can exist beyond a possibly depreciating national currency. We hope to promote change by offering new pathways for growth development, creating more opportunity in these countries' economic strategies, ones that can evolve outside of that very traditional hegemonic historical structure which has systematically abused and preyed upon Latin American communities. This is a team of Latin Americans, for Latin Americans, and as such, we wish to become an exemplary community in terms of service, security, user friendliness, efficiency, and above all, reliance—for crypto platforms worldwide, for the crypto-community at large, and for those very societies which we wish to transform.





# PROJECT ECONOMY MANAGEMENT

## SOLUTION

AlteumX's mission is to create the best trading and investing platform for both institutional investors and private individuals. Our goal is fundamentally designed to both help and facilitate our users' experience through the creation of easy management, investing, and trading tools (see Figure 3.2 below.)

In addition to this, AlteumX will also be using blockchain-based technology to secure transactions and users' information in order guarantee a fair and transparent platform for all those involved. We will also be working on expanding access to the crypto world in all of Latin America by opening and operating fiat gateways throughout the region, starting with Mexico, followed by Brazil, and the rest of the nearby markets.

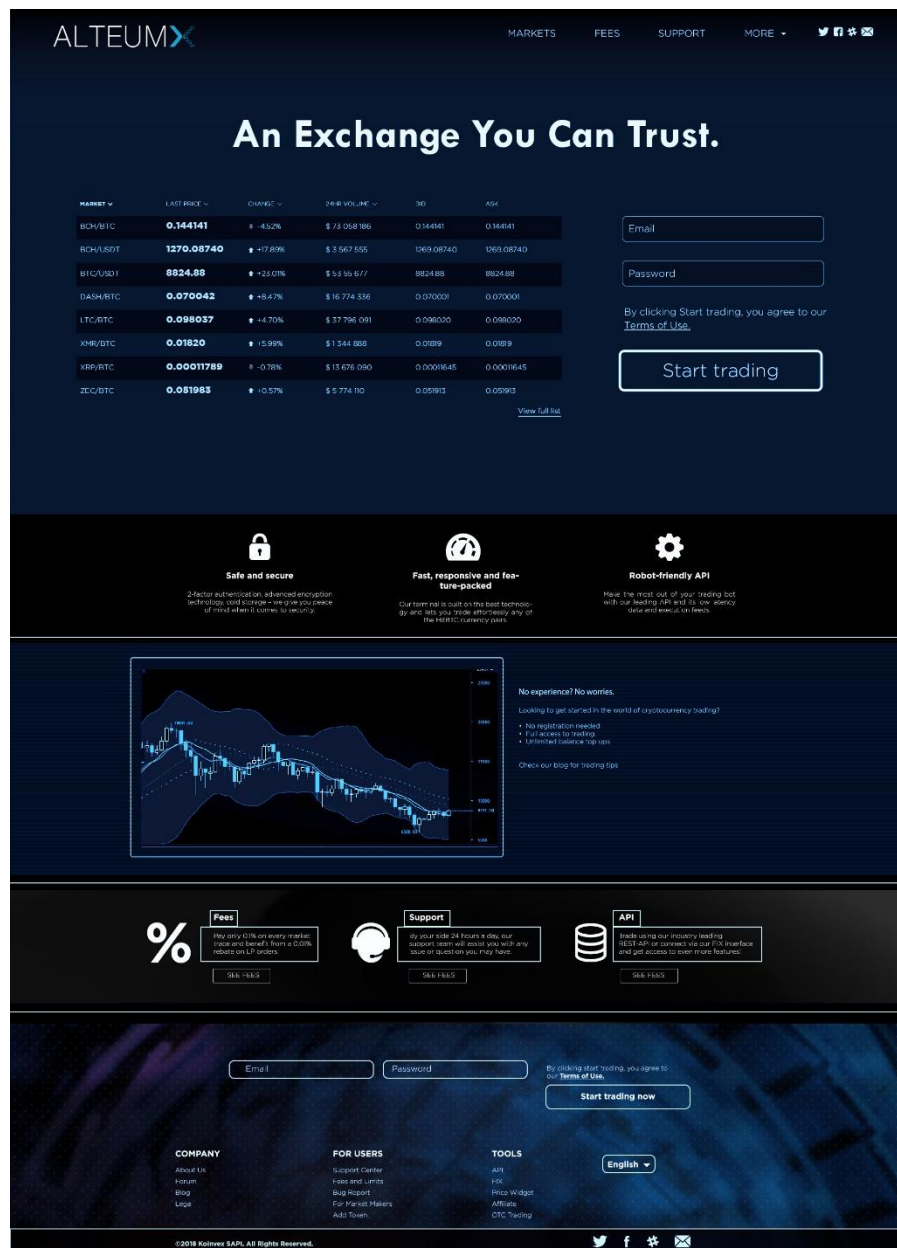


Figure 3.2 - ALTEUM X Exchange Prototype I





# PROJECT ECONOMY MANAGEMENT

## SECURITY MEASURES

### *Private Internal Blockchain (KRONOS)*

The AlteumX Exchange platform was designed with security as one of its most important features. We have witnessed an ever growing pattern of attacks and hacks against exchanges, and due to this, we decided to create our own private blockchain network called KRONOS in order to keep our users' information and their digital assets safe. Our developed and constantly improving private blockchain will add an additional layer of security for stored information and transactions within our exchange, as well as providing transparency for our customers. By developing our own internal blockchain, we are actually optimizing efficiency by cutting costs of operation—this is in addition to being able to provide a new level of security to our users. The system works by having each user's information, along with their digital assets, be uploaded onto our blockchain where it is simultaneously stored and encrypted. This adds layers of security onto each other, as an attacker would have to bypass several layers to be able to hack all of the nodes in the system, which as the blockchain grows, becomes increasingly improbable.

ALTEUM's private blockchain creates a block every 5 minutes and creates redundancy when it needs to help make the blockchain more secure. By implementing all of this and continuing the development and improvement of KRONOS, we hope AlteumX will be a model of what a first class exchange should be like.

### *API Access*

An API is available adventurous users. The API uses personal signature to authenticate the user, and make available the personal information, wallet management, AlteumX information, and trading.

### *Secure Web Services*

AlteumX services are mounted over secure connections as Secure Socket Layer Certificates, Encrypted messages implementing complex hashing algorithms through several secure layers on the system with limited and restricted access. We will use a secure HTTP, HSTS headers to enforce TLS encryption, CSP &X-XSS-P to mitigate XSS attacks and other possible hacks. All of our hosting will be done by an automated DDoS Shielded hosting solution with network and API level firewalls. All passwords are to be salted and hashed.

### *Fiat*

Fiat currency is deposited to a unique account given by AlteumX to each user. Those accounts are monitored and deposits will be reflected in the user's account after the confirmations are done. Withdrawals will be made to the accounts the users specified during this process.

### *Large Deposits/Withdrawals Management*

In both, crypto and fiat currencies, large deposits and withdrawals are managed by admins that will contact personally the users to perform the transactions. These transactions are issued from an independent system that is linked to the AlteumX main system.



# PROJECT ECONOMY MANAGEMENT

## ***Hot (Active)/Cold Storages***

Exchange will keep certain liquidity for both crypto and fiat currencies in order to manage transactions as fast as possible. AlteumX will always have more than 90% of its users funds stored in cold storage and only 10% of funds will remain active storage. Hot storages are managed by an automated independent entity using high encryption algorithms to prevent leak of sensible information needed for transactions. Cold storages are managed by a semi-automated system that is isolated from AlteumX main systems (hardware security system). Our cold storage system will be held and guarded in a maximum level facility to ensure the total protection of our users funds.

## ***Authentication***

Four types of authentication are managed: User personal password, login captcha, Two factor Authentication (2FA protection) with Google Authentication/SMS/OTP, and finally a personal withdrawal PIN.

## ***Portfolio Analysis Tools and Features***

AlteumX users will have at their disposal a wide variety of tools to improve their asset management through our user-friendly platform and portfolio builder. By understanding both the platform and their portfolio, users will have access to tools such as profit and loss per trades, comprehensible arrays of different digital assets, trading volumes, spread size, and time period. They will also be provided with a full visual representation of their portfolio in real time, synthesizing their trading data in graphs,

that way our users will have all the information they need whenever they wish to see it.

All of these features and tools will be designed with efficiency in mind, making the platform visually appealing and easy to use. Over time AlteumX will be adding and developing additional tools and features, especially as we build upon the technological systems we have already established.

## ***ICO Investing Tools***

By integrating and taking advantage of ALTEUM's financial ecosystem, AlteumX will allow crypto investors (who may be interested in participating in upcoming ICOs) the opportunity to partake in these offerings which may not be available elsewhere, and as such, facilitate access to new investment opportunities.

These features will be beneficial to both ICOs and interested investors since they reduce the various steps generally needed to participate in ICOs. A key component, for example, would be accelerating the KYC (Know Your Customer) process, since users have already provided the necessary documentation to AlteumX.

## ***Tax Documentation and Payment***

AlteumX is also working closely with local Latin American governments to facilitate and improve tax documentation and payment of taxes for the Institutional users who need to do so. Future developments will also help and facilitate our end users as well.



# PROJECT ECONOMY MANAGEMENT

## ***User Interface***

At AlteumX, we are designing our interface with our users in mind, optimizing our UI to give them the best experience possible. With constantly improving and modifying our platform on a daily basis, we will make sure our customers always have the most advanced and user-friendly platform available to them.

We are aware that there are a wide variation of exchanges in the world. Some of them are interactive and easy to use while others are so complicated and sophisticated that the average user soon gets lost and confused. The useful tools and features that are available on some of these exchanges then become inaccessible to the user, as they quickly change platforms or give up on crypto-trading entirely.

For these reasons at AlteumX, we will offer two different services and features. One for the experienced and veteran crypto trader and another for the new and inexperienced user.

## ***Expert Interface***

The AlteumX Expert Interface will be designed specifically for the veteran trader and investor. This interface will include all the features one can expect from a world class crypto exchange—from the basic order types like limit orders, market orders, stop-loss orders to the advance orders as OCO and hidden orders. This is addition to all the advanced graphing and visual tools we can expect from professional financial service platforms.

## ***Beginner Interface***

The AlteumX Beginner Interface will be designed for all inexperienced and new users, coming from any number of backgrounds. For these beginners, we don't want to overload them with information they don't know yet how to use, as all the advanced and complicated features and tools of the current exchanges can appear to be at first. Rather, we wish to simplify the experience for them, by allowing our users to first learn the basics and feel comfortable in the new crypto world before they feel they can advance to the more sophisticated Expert Interface.

The Beginner Interface will include all basic market order tools as well as previously designed crypto portfolios and options so that our new users can quickly join and participate in the crypto world as they see fit. We will also be including a tour session of the interface so our users can get to know all aspects of our platform before beginning their trades.

Our goal is to make trading easy to understand and investing accessible to the average person that is just starting to get involved with crypto, and in doing so, we hope to attract a wide array of users to our community.

## **Matching Engine System**

Our Order Matching Engine System will be efficiently matching all market orders done on our platform. It will currently be supporting the following types of orders:

- *Market orders*
- *Limit orders*
- *Stop-loss orders*

New types of orders will be added over time.



Our matching engine will also use the following algorithms:

- Pro-rata
- FIFO
- Market Maker Allocation

### ***AlteumX Value Proposition***

AlteumX is going to be a Centralized Exchange in the beginning since it needs to be able to open real-world fiat gateways in a variety of countries, and in doing so, it must be able to deal with governments as centralized organization. However, we are well aware of the advantages that a Decentralized Exchange can over traditional Centralized Exchanges, and as such, we at AlteumX are focusing on all the areas of opportunity that are arising and we are open on improving with them, especially if it means creating a better serviced system. Our private blockchain addresses a lot of these areas of opportunity by providing a decentralized and encrypted network to give our customers transparency and security. We want our users to have complete and real time access to their account balance and a full transaction history, along with accompanying analysis, which most of the Centralized Exchanges do not have. In short, AlteumX will be an exchange that:

- Is trust-less (our users will not need to trust each other in order for the system to function).
- Is front-running proof (as it will be impossible for the exchange to front-run users' orders due to our advanced FIFO algorithm).
- Has a high throughput (as it is especially designed to be able to handle more than 10,000 transactions/second and in the near future more than a 1,000,000/second.)
- Will become the fiat gateway for Latin America (starting with Mexico, followed by Brazil et al.)

### ***AlteumX Exchange Business Model***

**AUM Token:** The AUM token which is an ERC223 compatible token on the ethereum blockchain will be the number one form of currency and tradable asset in the AlteumX Exchange. Owners of AUMs will receive a whole wide range of benefits in the Exchange, described below.

### ***TRANSACTION FEES***

AlteumX Exchange will charge a competitive transaction fee to both the maker and taker in our platform. We will have 3 different transaction fees functionalities and options:

**Fiat to Crypto and Crypto to Fiat:** As every Latin American country has different regulations and laws our transactions fees from fiat to crypto and vice-versa will vary between each our fiat gateways and depending on which country you live in. The more harsh and regulated the county the more expensive the commission will be. This is simply to cover our costs and allow us to offer great services and comply with all the regulation and laws in that specific counties fiat gateway.

**Crypto to Crypto:** Our commissions for transactions from crypto to crypto will be competitive to other exchanges as Binance and Bitfinex.

**Alteum (AUM) to Crypto:** All transactions from AUM to Crypto or Crypto to AUM will have a discounted commission fee and over time this commission fee will decrease. Our goal here is to promote trades with AUM and make it the number one coin for trades and parity in the world.

All trades will also be payable with AUM token at a discounted rate and users with a higher trade volume and active social profile will receive an extended discount.

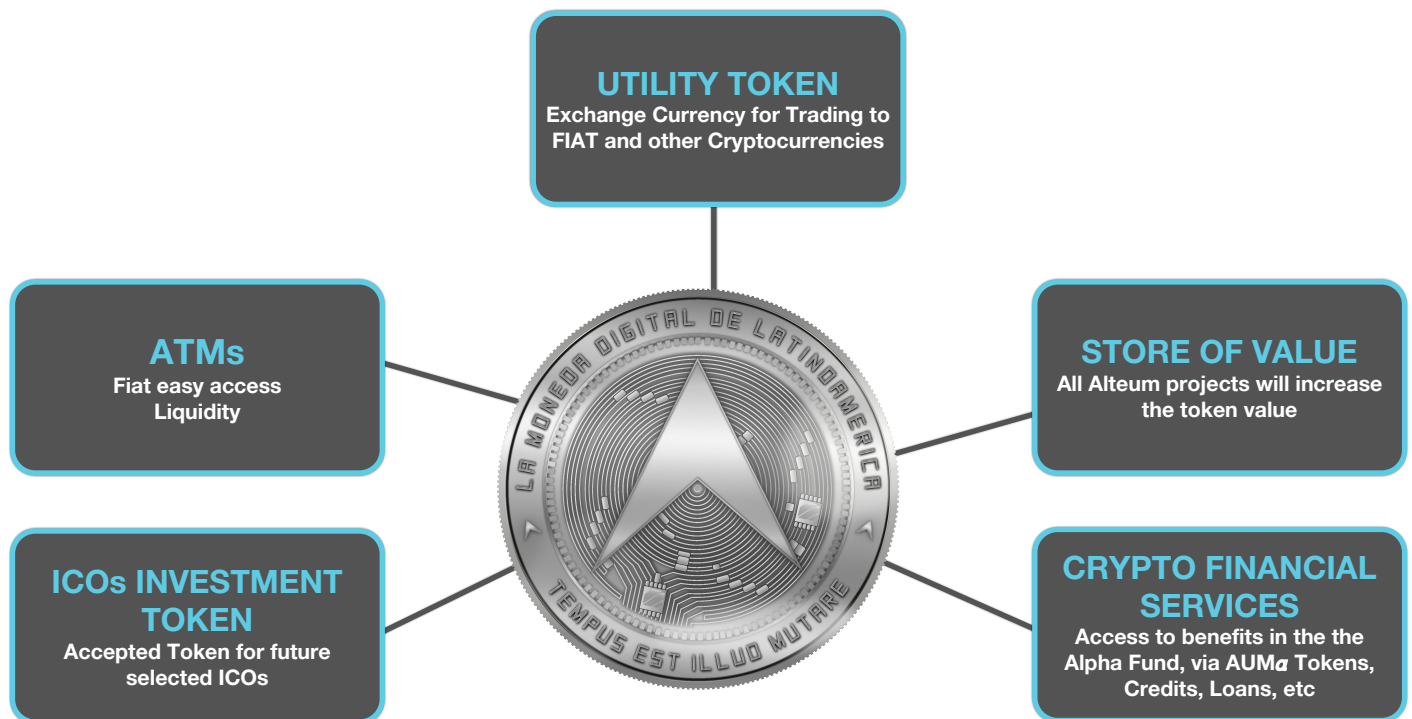


## AUM BENEFITS: OUR SOLUTION

AUM value is supported not only by perception or speculation but by the economy that supports the four pillars

The AUM Token is the exchange coin, it provides for better fees, access to a variety of services in the Alteum X Exchange (like being eligible to request back to back loans), and premium access to the Alteum Alpha Fund via linkage to the AUM<sub>a</sub> Token for our Index and Altcoin Funds

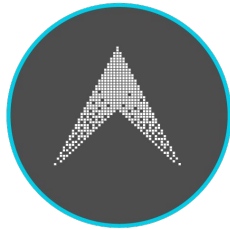
In addition to this, we will be paying dividends issued in Ether (ETH) to all token holders of AUM who have kept in wallets prior to the dividend payment period. The percentage (%) amount will be decided by the Alteum Steering Committee and announced through all official channels.





## AUM BENEFITS: OUR SOLUTION

### WHY INVEST IN AUM TOKENS?



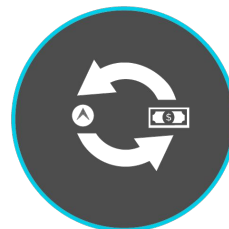
DIGITAL CURRENCY OF  
LATIN AMERICA



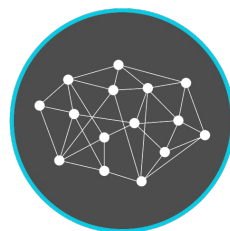
RETURNS SURPASSING  
TRADITIONAL INVESTMENTS



FIAT ACCESS  
HIGH LIQUIDITY



EXCHANGE  
CURRENCY



BLOCKCHAIN ECOSYSTEM



CRYPTO FINANCIAL  
SERVICES

ALTEUM IS ALSO SUPPORTED BY AN INTERNATIONAL INVESTMENT COUNCIL  
COMPRISED OF DIGITAL INVESTMENT EXPERTS



## ICO STRUCTURE

Alteum's collection will be carried out through the sale of tokens in three different stages: PRE-SALE, PRE-ICO and ICO, where interested parties must register, complete the "Know Your Customer" procedure and send their contribution through SPEI or to Alteum's Smart Contract.

Alteum's digital currency (AUM) is an Ethereum ERC223 token, and is the first digital hybrid currency in Latin America because it serves two purposes: the first is as a store of value repository and the second is as an utility token with which you will be able to receive crypto financial benefits and services.

**Unsold tokens are to be treated as follows:**

50% distributed within contributors // 50% Locked for 12 months

### TOKENS DURING ICO 37,500,000

PRE-SALE	PRE-ICO	ICO
5,625,000 TOKENS SOLD OUT 0.35 USD	Starts February 16, 2018 11,250,000 TOKENS 0.55 USD	Ends March 15, 2018* 20,625,000 TOKENS 0.75 USD

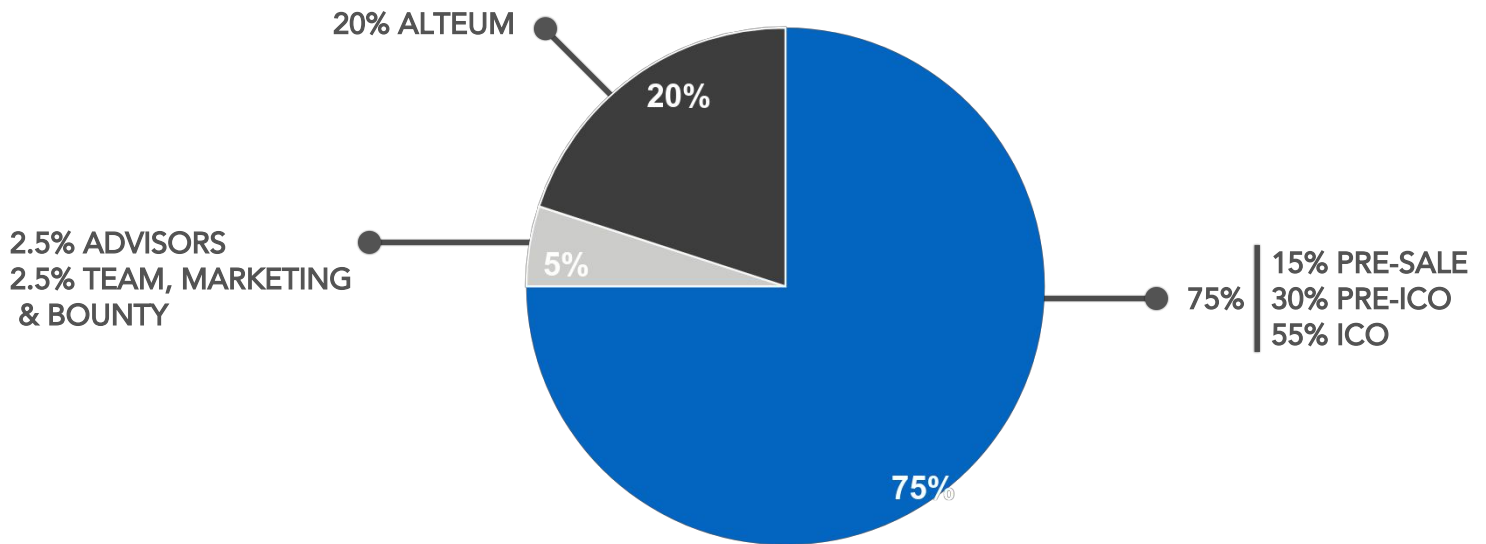
**MINIMUM CONTRIBUTION .10 ETH // MAXIMUM 500 ETH**

\* ICO ends on March 15<sup>th</sup> or when AUM's availability ends.



## TOKEN DISTRIBUTION

TOTAL TOKENS  
**50,000,000**



## UNLOCK FOR PERFORMANCE VESTING MODEL

**2X**

When the token reaches 200% of its original value 2.5% of tokens is unlocked to Advisors.

**3X**

When the token reaches 300% of its original value 10% is unlocked to ALTEUM.

**5X**

When the token reaches 500% of its original value 10% is unlocked to ALTEUM.





# ROADMAP

2018

Q2

- **Exchange Opening**
- Launch of AUM as an exchange currency
- International Investment council activation
- ICO External Audit

Q3

- **Growth Pillar Opening**
- Coin and Tokens Investments
- Alteum Foundation

Q4

- **Development Pillar Opening**
- Latin ICOs Incubator activation
- Strategic alliances with international currencies

2019

Q1

- Strategic alliances with NGO's to facilitate blockchain adoption
- Development of the social responsibility plan

Q2

- **Opening of our Business Pillar**
- Crypto-financial services
- Crypto-credits through AUM currency
- Alteum ATM's

***What is the ALTEUM Organization and the AUM Token?***

We are a pioneering firm in the digital investment sector, created for the purpose of breaking the traditional monetary paradigm in order to migrate to the new digital economy. We are a vehicle for financial transformation in which we invite our investor partners to be part of the success in a simple and transparent way. In short we want digital investments to be accessible and safe for all active participants our community.

***When is ALTEUM's ICO going to take place?***

Our ICO is scheduled to start on February 16, 2018 and end on March 15, 2018.

***What types of currencies can I use to invest in ALTEUM?***

During the ICO we will only accept Ethereum (ETH), however to facilitate the access of our contributors we will be accepting other means of payment. Once the ICO is completed, the official currencies to invest in the platform will be Ethereum and Alteum Tokens.

***When do I get my ALTEUM Tokens?***

Once the ICO has finished your contribution in AUM will be communicated to you and Alteum will store them until it hits exchanges. The returns that we expect assuming the high volatility of this sector range from 20% to 300% per year, the mass adoption process will guide this growth, if this fails it translates into a loss. Our experience in the operation of these instruments and the prediction that digital currencies will have a value of 5 trillion dollars by the year 2025, give us clarity about the growth potential which is 30 to 1 in the next 7 years, assuming the current market value of 550 billion dollars.

***How is investing through the Alteum Alpha Fund platform different from traditional investing?***

At Alteum we seek to simplify access to investors who find themselves facing complex entry barriers and are missing the opportunity to maximize their returns. We want everyone to take advantage of this economic transformation which is why if we don't deliver the projected minimum yields (a benchmark) linked to each portfolio, we do not charge a commission. This way, our incentives are compatible, and the reward system is fair to both parties.

***Who is ALTEUM for?***

Alteum is for investors seeking medium to and high risk investments, who seek to maximize their returns in the short and medium term by diversifying a small portion of their capital, leveraged by the expertise and technical knowledge of Alteum's managers and advisors.

***Do contributors need to go through "Know Your Customer" procedures during Alteum ICO?***

Yes, to participate in Alteum ICO, investors need to provide identification documents (investor KYC). The platform user interface will provide easy and secure ways to perform KYC well before the first ETO starts. Escape hatch and longstop date mechanisms are available for investors that are not willing or not able to perform KYC. There is no other unlock mechanism available for such investors. The platform KYC process supports both individuals and organizations of virtually any type (natural and legal persons). Right now, and until it changes, US Citizens are not allowed to participate in the ICBM. This is due to the complex legality of each country's approach towards cryptocurrencies, so for the moment, all US, Chinese, and Singaporean investors will not be able to complete KYC and therefore will have to be excluded. We recommend



***Why did we choose to currently run the Alteum Platform on the Ethereum blockchain?***

In our opinion, Ethereum is currently the most advanced public blockchain and excels through its high programmability. It facilitates the involvement of smart contracts, which offer self-enforceable mechanisms enshrined in code. This accommodates the construction of complex applications, so called Decentralized Applications (Dapps). Ethereum has thus proved to be a highly valuable and sustainable project to which we contribute gladly.

***Why are 20% of the tokens diluted in favor of Alteum?***

These tokens have functions such as providing the fund's liquidity, that is to facilitate the entry and exit of holders in the stipulated times. They will be used in case of contingencies for re-purchases or future financing for the expansion of Alteum, which is for the benefit of all token holders.

***What makes the Alteum platform safe?***

Part of the user's information (i.e. a portion of their digital assets) will be stored in "cold storage wallets", repositories that are not online, which significantly reduce the risk of being hacked. In addition to this, users that are accessing our Alteum Exchange Platform and our Alteum Alpha Fund Platform will have to go through a Two-Factor Authentication (a personal password and Google 2FA.) Once inside the platform, if you want to transfer funds externally, you'll need to confirm via a PIN number and an additional email verification. In addition to this, of our client's personal information (passwords, private keys, etc.) will be encrypted and stored through our private blockchain: KRONOS.

***What is KRONOS?***

KRONOS is an ongoing R&D project that seeks to offer our clients the best security possible. As of now, it is a smart-contract living in a private blockchain that keeps all sensitive information encrypted, such as transfer and trading data, in addition to keeping all user information encrypted. Access to the private blockchain (e.g. to view traders) can be obtained only through our platform by verified ALTEUM Exchange users.



## LEGAL DISCLAIMER

1. Prospective ICO Participants should inform themselves as to the legal requirements and tax consequences within the countries of their citizenship, residence, domicile, and place of business with respect to the acquisition, holding or disposal of Tokens, and any foreign exchange restrictions that may be relevant thereto. The distribution of this White Paper and the offer and sale of the Tokens in certain jurisdictions may be restricted by law. This White Paper does not constitute an offer to sell or the solicitation of an offer to buy to any person for whom it is unlawful to make such offer or solicitation.

2. Alteum is not providing legal, business, financial or tax advice about any matter. You may not legally be able to participate in this private, unregistered offering. You should consult with your own attorney, accountant and other advisors (including determining whether you may legally participate in this ICO). You can contact us with any questions about this ICO or the Tokens.

3. It is the responsibility of the parties who wish to acquire Tokens to inform themselves and comply with all applicable laws and regulations of their relevant jurisdictions. Potential ICO participants should inquire about the legal requirements and the tax consequences within the countries of their citizenship, residence, address, and place of work in respect to the acquisition, possession, or disposition of the tokens, and any restrictions that may be relevant.

4. This Whitepaper constitutes an offer of Tokens only in those jurisdictions and to those persons where and to whom they lawfully may be offered for sale. This White Paper does not constitute an offer to subscribe for securities except to the extent permitted by the laws of each applicable jurisdiction.

5. Nothing in this Whitepaper is intended to create an investment contract into Alteum and each potential ICO participant acknowledges that Alteum will rely on this assertion of an ICO participants statements regarding compliance with the laws of the jurisdiction in which the ICO participant is legally domiciled.

6. This document should not be construed as an offer or solicitation of an offer for the sale of tokens. The parties listed in this document are not and will not sell tokens and have written this document on behalf of the legal entity that will be conducting the relevant token sale.

**RISK WARNING:** Investments in currencies and digital assets are subject to a high risk of volatility and losses. Please, do your own research and analysis of investment very cautiously.

At Alteum, we will do our best to choose high quality instruments in order to capitalize attractive returns.



# GLOSSARY OF TERMS

**Altcoin.** "Altcoin" is a combination of two words: "alt" and "coin"; alt is short for alternative and coin signifies currency. Thus together they imply a category of cryptocurrency that is alternative to the digital currency Bitcoin. Altcoins are the alternative cryptocurrencies launched after the success of Bitcoin. Generally, they project themselves as better substitutes to Bitcoin. The success of Bitcoin as the first peer-to-peer digital currency paved the way for many to follow. Many altcoins are trying to target any perceived limitations that Bitcoin has and come up with newer versions with competitive advantages. There is a great variety of altcoins. Read more: [Altcoin Definition | Investopedia](#)

**Blockchain.** A blockchain is a digitized, decentralized, public [ledger](#) of all [cryptocurrency transactions](#). Constantly growing as 'completed' [blocks](#) (the most recent transactions) are recorded and added to it in chronological order, it allows market participants to keep track of digital currency transactions without central recordkeeping. Each node (a computer connected to the network) gets a copy of the blockchain, which is downloaded automatically.

Originally developed as the accounting method for the virtual currency [Bitcoin](#), blockchains – which use what's known as [distributed ledger](#) technology (DLT) – are appearing in a variety of commercial applications today. Currently, the technology is primarily used to verify transactions, within digital currencies though it is possible to digitize, code and insert practically any document into the blockchain. Doing so creates an indelible record that cannot be changed; furthermore, the record's authenticity can be verified by the entire community using the blockchain instead of a single centralized authority.

Read more: [Blockchain Definition | Investopedia](#)

**Cryptocurrency.** A cryptocurrency is a digital or virtual currency that uses cryptography for security. A cryptocurrency is difficult to counterfeit because of this security feature. A defining feature of a cryptocurrency, and arguably its most endearing allure, is its organic nature; it is not issued by any central authority, rendering it theoretically immune to government interference or manipulation. The anonymous nature of cryptocurrency transactions makes them well-suited for a host of nefarious activities, such as [money laundering](#) and [tax evasion](#).

The first cryptocurrency to capture the public imagination was [Bitcoin](#), which was launched in 2009 by an individual or group known under the pseudonym Satoshi Nakamoto. As of September 2015, there were over 14.6 million bitcoins in circulation with a total market value of \$3.4 billion. Bitcoin's success has spawned a number of competing cryptocurrencies, such as [Litecoin](#), Namecoin and PPCoin.

Read more: [Cryptocurrency Definition | Investopedia](#)

**Cryptoeconomics.** Cryptoeconomics refers to the combinations of cryptography, computer networks and game theory which provide secure systems exhibiting some set of economic dis/incentives.

Cryptography is used to prove properties established in the past, such as account balances, identities and ownership.

Digital representations of economic value become possible, accessible to all, assignable, exchangeable and immune to censorship, able to be relied upon in the future.

Read more: <http://theethereum.wiki/w/index.php/Cryptoeconomics>

**Digital asset.** A digital asset, in essence, is anything that exists in a binary format and comes with the right to use. Data that do not possess that right are not considered assets. *Digital assets* include but are not exclusive to: digital documents, audible content, motion picture, and other relevant digital data that are currently in circulation or are, or will be stored on digital appliances such as: [personal computers](#), [laptops](#), portable media players, [tablets](#), storage devices, telecommunication devices, and any and all apparatuses which are, or will be in existence once technology progresses to accommodate for the conception of new modalities which would be able to carry digital assets; notwithstanding the proprietorship of the physical device onto which the digital asset is located

Read More: The Elder Law Report, Vol. XXV, Number 1



# GLOSSARY OF TERMS

**Ethereum project.** Ethereum was initially described in late 2013 and launched its first release, dubbed Frontier, in 2015. Ethereum utilized a pre-sale, making units of the ether currency publicly available for a fixed price in Bitcoin, with all of the proceeds going to the Ethereum Foundation.

This is a slower pace of development compared to many altcoins, but it reflects that fact that Ethereum is much more complex. In addition to EVM, a new programming model, and new data structures, Ethereum made significant changes to Bitcoin's consensus protocol as well. The block time is targeted at 12 seconds instead of 10 minutes. To lessen the impact of stale blocks, which comprise a larger fraction of blocks in Ethereum than in Bitcoin, Ethereum uses an alternative protocol called GHOST to compute the consensus branch. It also uses a different proof-of-work. Currently, it's a mix of hash functions designed to be memory hard, though in the future Ethereum plans to switch to a proof-of-stake system.

**Frontrunning.** In the context of trading, front running is the practice of stepping in front of orders placed or about to be placed by others to gain a price advantage. For example, a broker receives an order from a client to buy 500,000 shares of XYZ Company. He holds it until he executes the purchase of a smaller order of the same stock in his own account. He then executes the client's larger order, which drives up the share price. The broker can then sell his share, making a profit at the direct expense of the client. That form of front running is not only unethical, it is illegal.

Read more: [Front Running](https://www.investopedia.com/terms/f/frontrunning.asp#ixzz58F6abEN9) <https://www.investopedia.com/terms/f/frontrunning.asp#ixzz58F6abEN9>

**Know Your Customer.** One of the essential countermeasures against money laundering is something called Know Your Customer laws, sometimes called KYC. The details can be a bit complicated and will depend on your locale, but the basic idea is this: Know Your Customer rules require certain kinds of businesses that handle money to do three things:

*Identify and authenticate clients*— get some kind of authentication that clients really are who they claim they are and that those claimed identities correspond to some kind of real-world identity. So a person can't just walk in and they're John Smith from 123 Main Street in AnyTown, USA — they have to provide reliable identification documents.

*Evaluate risk of client*— determine the risk of a certain client engaging in underground activities. This will be based on how the client behaves — how longstanding their business relationship is with the company, how well known they are in the community, and various other factors. KYC rules generally require covered companies to treat clients whose activities seem riskier with more attention.

*Watch for anomalous behavior*— that is, behavior that seems to be indicative of money laundering or criminal activity. KYC will often require a company to cut off business with a client who looks dodgy, or who is unable to authenticate themselves or their activities sufficiently for the rule.



# GLOSSARY OF TERMS

**Token.** Token money is money whose face value exceeds its cost of production. Most modern coins used in circulation are token money, as are paper notes. It is a subsidiary of [standard money](#). Token money is exchanged at a value rate independent from its [commodity value](#). If the money is metallic it is made out of inferior metals such as copper and nickel.

Token money gives the holder no claim to legal redemption in terms of some object possessing an [intrinsic value](#). As such all money in the whole Western world is token money. With token money, exchanges are not considered fully complete because the exchange of value is not equivalent. Value is hoped to be rendered at some future time. Examples of this include bills of exchange or [negotiable instrument](#) and [certificates](#). [Financial cryptography](#) enables digital token money deployment of [digital currencies](#) such as [Bitcoin](#).

Read more: [https://en.wikipedia.org/wiki/Token\\_money](https://en.wikipedia.org/wiki/Token_money)

**Smart Contract Programming Model.** The term *smart contract* was first used to describe the use of computer systems (or other automated means) to enforce contracts. As an example, you could think of a vending machine as a mechanical smart contract that enforces an agreement between you and the machine's owner involving the purchase of a candy bar.

In Ethereum, a contract is a program that lives on the blockchain. Anybody can create an Ethereum contract, for a small fee, by uploading its program code in a special transaction.

**Smart Infrastructure.** A smart system that uses a feedback loop of data, which provides evidence for informed decision-making. The system can monitor, measure, analyse, communicate and act, based on information captured from sensors. Different levels of smart systems exist. A system may:

- collect usage and performance data to help future designers to produce the next, more efficient version;
- collect data, process them and present information to help a human operator to take decisions (for example, traffic systems that detect congestion and inform drivers);
- use collected data to take action without human intervention

There are examples of each level of smartness already operating, but the same principles can be applied far more widely across interconnected and complex infrastructures.

Read more: <https://www.raeng.org.uk/publications/reports/smart-infrastructure-the-future>



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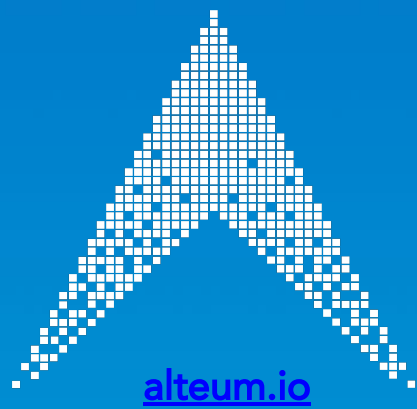
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