C o a l i c h a i n

P e o p l e . D i r e c t . D e m o c r a c y .

Shahar Larry, Levi Samama

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1. Executive Summary

1.1. Overview: Blockchain- powered Group-governance

Coalichain – tech-platform for effective, accountable, people-driven governance of groups (e.g., NGOs, decentralized communities, municipalities, companies, or political parties). Representatives present their agenda directly to voters; make clear and enforceable promises; transparently raise money and more. Voters track reps. performance and use smart-contracts to enforce accountability. The blockchain architecture ensures all transactions are public, transparent and immutable. The ZUZ crypto-token facilitates transactions and measures participation and governance impact.

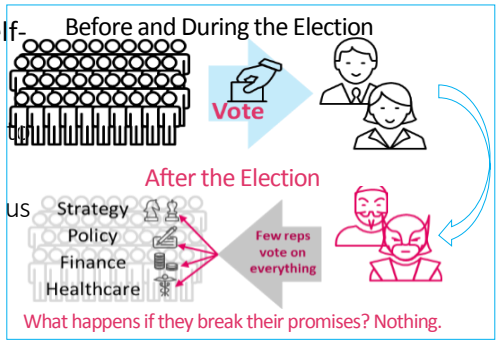
1.2. Opportunity: Solving Representative Democracy

Coalichain is addressing a global problem that most of us have given up on: How to create a governance mechanism that is truly representative, that is immune to corruption, that makes it easy for people to voice their opinion, continuously without slowing the group down. The reality is that we all live in groups and at the same time we are not involved in how they are run.

1.3. Problem: Too Much Power. Too Few Reps. Not Enough Accountability.

Representative democracy is rigid, slow and lacking in its ability to self-regulate.

- **No accountability** – Weak restraints on elected officials leads to systemic corruption
- **"Carte-blanche"** – Electing one person/small group to speak for us on all things

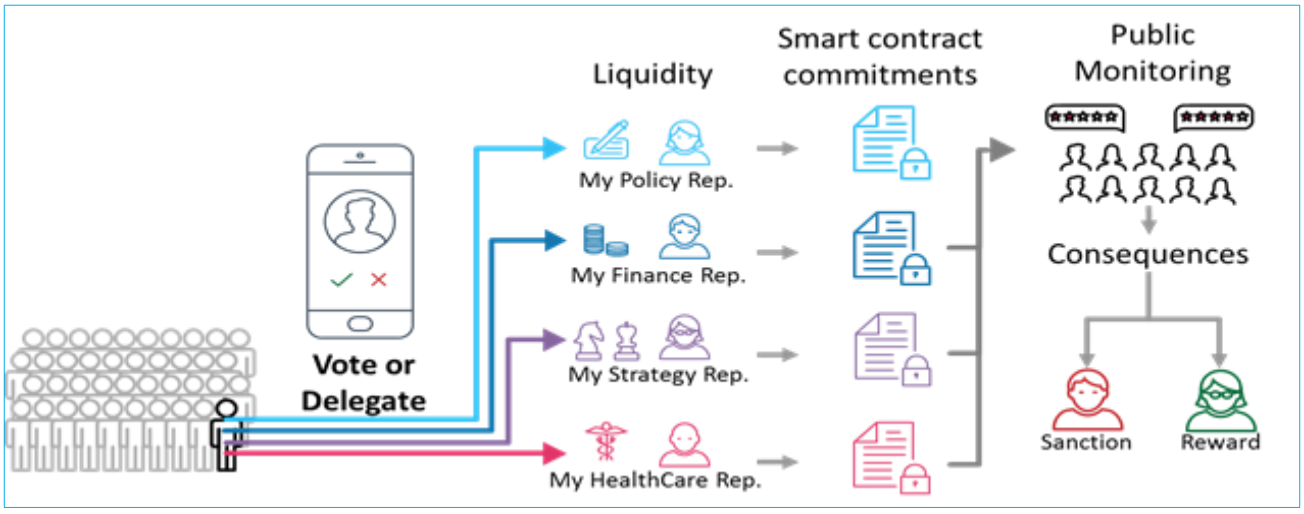


1.4. Solution: Frictionless, Inexpensive and Flexible Democracy

Governance as a Service solution that allows group members to delegate other members as representatives.

- Accountable – Delegates' commitments are formalized and recorded and enforced by smart contracts. Crowd-based monitoring triggers the smart-contracts and delivers affective oversight.
- Accessible – People participate and engage in their group-governance from their mobile phone.
- "Liquid" – Reduced cost and friction makes the democratic process "liquid" – people can split their vote and delegate power, any time, to different reps depending on the issue.

The ZUZ – – is a dedicated crypto-token for in-DApp transactions (e.g., donations) and for incentivizing participation.



2. Context and Motivation

2.1. We live in Groups

People live in groups.

We all belong to many groups: our neighborhood, town, district, country or continent, at work, in unions, where we volunteer, where we play, where we study, on social media.

What do we mean, at least in this paper, when we say "Group"?

Think of a group as a set of people that 1) identify themselves as belonging to that set, and 2) are accepted by (enough) other members of the set as belonging to that set.

The source of this identification of belonging can stem from multiple sources. It could be a common purpose, geography, language, preference, and even medical condition. As long as enough people in that group agree on the identifier and recognize it.

We employ different forms of government to manage, guide and operate our groups.

2.1.1. Unpacking Group Governance

Governance systems describe the ways in which groups manage, guide and operate. Governance includes the different ways in which decisions are made, policy, purpose and rules are set and enforced, and how disputes are settled in a group.

When we think about governance, we must first go beyond the popular notion of the word and realize that it does not necessitate centricity. **Governance must be an efficient, effective mean of realizing the group's purpose.**

2.1.2. Who Sets the Policy?

Think of corporate governance. The shareholders can express their wants in the general assembly and in their buy, sell or hold actions. The company's board of directors is supposed to represent the interest of the shareholders. The Executive Suite is responsible for executing the directions of the board. However, effectively, who sets the policy? Who defines the agenda? In one company a strong CEO can be the dominant force in setting the policy, in another, it is the board and in a third, it can be the union. If you think about the groups that you are members of, you will soon see that in most, if not all, of them the policy is set by a small leadership.

2.1.3. Representative Democracy - Compromise and Proxy Power

We all know democracy is not perfect. Nevertheless, most of us think it is the “least worst” form of governance. In order for democracy to be effective and efficient we needed to make some concessions. The most apparent[1] was moving from direct and pure democracy to the representative model. It makes sense:

- **Consensus** – It is not clear that it is easy or practical to decipher the wants and purpose of the group’s members. How do you decide what the “group wants” if on a specific issue there are diametrical positions that are split 70/30 among its members? Do you ignore the 30%? In all cases? Representative democracy acknowledges this problem and solves it by transferring the decision-making power to a smaller group that can more easily get to a reasonable consensus.
- **Cost** – Even if we could find a way to measure consensus and balance the different variables in a reasonable way, in large groups, asking the members every time a decision needs to be made, what they think, is too expensive to be practical.
- **Expedience** – A small, authoritative set of representatives has the ability to act fast. Deliberating every decision with the entire membership body is many times too slow to be effective.

[1] Others included, the protection of minorities, taking measures to ensure basic rights supersede the majority vote and more.

- **Expertise** – Some decisions require knowledge and expertise that are not common.

Simply put, the day-to-day operations of a group, be it a country or a start-up company, are made out of many decisions. Too many for the group members to consider and vote on. A CEO of a company cannot go and ask her board every time she wants to buy a computer or engage a client. For the CEO to perform her job, she needs the freedom and power to act independently. If a hospital is considering the best medical procedure to treat a patient, asking the entire body of stakeholders is unlikely to yield the best decision. Most people will not have the required knowledge to understand the pros and cons. Asking a select group of experienced doctors is a far more promising avenue. The representative democracy allows group members to transfer their right to affect decisions (delegate power) to a smaller group of representatives.

So, we compromised and gave our representatives the right to decide for us, to vote for us, and the power to act on our behalf. **Since we cannot effectively monitor their every action and since we have to give them enough freedom to operate, we effectively allow them to set the policy, that dictates the operations, allocation of resources and the issues that demand decisions. Too many times, this leads to corruption.**

2.1.4. Power Attracts the Corruptible

So? Is that a bad thing?

Yes! It is, in many cases, a bad thing. The roots of this problem of corruption stem from a misunderstanding of representation. We assume that representatives should have power (ideally derived from their people). This is simply not the case. **Representatives are not supposed to have any power at all**. Ideally, they are supposed to be a vehicle of power, carrying and using the group members' power (not their own).

We gave them power as a compromise and inadvertently provided them with almost unchecked power. Putting so much power in the hands of very few representatives, that are not accountable to the purpose of the group or the wants of its members, is a problem. This power is seductive. Baron Acton famously wrote: "Power tends to corrupt, and absolute power corrupts absolutely. Great men are almost always bad men..." Just under a 100 years later, David Brin wrote: "It's said that 'power corrupts,' but actually it's more true that power attracts the corruptible." Either way we are stuck with corruption.

The fact that the representatives' actions should be transparent and open to oversight, and that the group members can decide not to elect them next time – should be sufficient deterrents from representatives taking advantage of their power. Well, they are not (sufficient deterrents).

2.1.5. How Groups Should Be

We want our groups to be **effective and efficient** in realizing the purpose, **sustainable** in being robust, stable and adaptive, and **just (fair)** in execution.

These categories are not mutually exclusive, and they echo of each other. For example, if we are fair in execution, group members feel better and therefore are more likely to stay and support it making it more effective and more sustainable.

Unpacking these terms, we identify additional required attributes:

- **Incorruptible and Transparent** – Avoid/prevent the abuse of power by the few
- **Trustworthy** – Ensure that records/transactions are immutable
- **Equitable** – Distribute resources and value fairly
- **Unbiased** – Allowing for anonymity and removing personal judgment in decision making, where it is possible and useful, will reduce bias
- **Ethical** – Act in a way that is congruent with what the group members believe to be self-evident and inalienable rights.
- **Productive** – Avoid waste, optimize efficiency and keep cost effective

2.2. Escapism

This paper does not describe an agenda to replace governments. In fact, it describes a decentralized platform that abdicates the agenda and gives it back to the people that make the groups – for them to decide how to run their lives. Nevertheless, we would like to demonstrate a few points by looking at facts from the domain of general elections and systems of governance of countries. General election is an easy example because it is usually public, and therefore provides a lot of insightful information. The sentiments we identified are found, if you think about it, in almost every other governance system of any other group.

Here's the gist of it. There seems to be a growing consensus that democracy is what people need and at the same time there is a constant decline in participation. It is as if we assimilated the concept of democracy, and once we did that, we "checked out". The reason for this trend of disengagement and escapism stems from the growing feeling that what we do does not matter and will not affect how things are run, so why bother?

2.2.1. Confidence in Democracy is Falling

According to Freedom House[i], out of 195 countries, 87 countries have reasonably free and fair elections (~2 bn voters). According to the World Bank, 88% of people think that elections are important for economic development, while only 45% have confidence in the honesty of the elections. Indeed, the influence of interest groups on elections is increasing. In the US in 2016 alone lobbying spend exceeded $3bn USD[ii]. A paper published in 2009 in the Journal of Law and Politics[iii], showed that lobbying delivered $220 USD for every dollar spent (22,000% ROI).

2.2.2.Voters Disengaging

With low levels of confidence, fewer voters exercise their right. Voter turnout rates in democratic countries are quite low and have been steadily declining[iv]. In the US 2016 elections, voter turnout was only 55%. According to a World Bank report from 2017[v], election turnout over the last 25 years dropped by more than 10%.

2.2.3.Expensive Process

Elections are expensive. In the US the combined direct cost of the 2012 presidential elections and the 2014 midterm elections was around $13bn USD. With 126 million voters, that is around $100 USD per voter. Although the US spend on elections is extraordinarily high, even at $50 USD or $10 USD, it is an expensive venture for such poor results.

2.3. More than Voting

2.3.1.Wrong Challenges / Right Opportunity

Over the past couple of decades there has been significant work done in developing electronic voting. These development tracks are not the concern of this paper. Application of blockchain technology and especially the ability to transact, directly, peer to peer, is not about progressing from the paper ballot.

So, what is it about? Well, some claim that it is about a secure vote. In fact, most of the "blockchain democracy" ventures out there either state this as their prime driver or give it a significant role. The problem with this approach is that it addresses a challenge that does not exist. Election fraud is a very rare and infrequent problem (in democracies)[2].

Indeed, most blockchain-based governance solutions focus on the tokenization of the vote. If we transfer our vote power to a token that can be moved and used in different ways, we get all kinds of cool advantages. For example, (as is shown in Democracy Earth), it will allow us to make the democratic "liquid", i.e., voters will be able to split their vote and "micro-transact" with their voting power on different issues. That's pretty cool. We like Democracy Earth. Nevertheless, they are the exception. Most governance ventures do not transcend a cyber security, potential problem of secure voting.

[2] Election fraud may become an issue if we use digital voting – which is why blockchain is such an attractive solution. Indeed, the fact that the blockchain is both public and anonymous, and it being immutable will solve for this potential challenge.

2.3.2. "Currencization" of Influence

In our work, we identified a key element, missed by others. If we are successful in promoting the participation of the public in the governance of their groups, we will see a new type of human activity. One that was not common before. Much the same way that touchscreens and smartphones changed the way we behave and act. People and organization are soon attracted to these new types of human activities and try to provide value and profit from them. For example, we are now used to being exposed to advertising while playing games on our smartphone. Attention is a new type of "currency" and it is measured and traded in fungible units of impressions or time. In the same way we can say that the activity of stating one's opinion on various topics relating to the governance of one's group, is a new value-creating activity. This new activity will create value and there's no reason we will not be able to harness it as a currency. We call this the currencization of influence. For more about this see § A in the Appendices. It is important to make clear, that we see the blockchain, cryptocurrencies and smart contracts trifecta not as a solution for the tokenization of the vote. We see them as the foundations of an opportunity to deliver value-creating, fair governance platform that create a new economy, capable of supporting a new currency.

3. The Coalichain Platform

3.1. Rationale and Purpose

The reality of our different systems of governance is one of powerless, discounted voters and "bent", disillusioned candidates. The biggest pain we identify is that we have resigned and accepted this as a reality we cannot change. We have become sedated.

Representatives are not born bad - they become bad. A candidate that wants to win and keep her position, quickly learns that she cannot rely on her ideals alone. She has to either bend or fail.

That sucks.

Coalichain is a decentralized-democracy ecosystem, based on blockchain and smart-contracts and fueled by the ZUZ – a new cryptocurrency. It delivers effective, accountable, people-driven governance to any organization or group of people, from DAOs, through companies, NGOs, municipalities, and all the way to primaries and general elections. Coalichain allows representatives to showcase their agenda directly to their voters; make clear and enforceable promises; transparently raise money and more. It also allows anyone to track the performance of elected officials and hold them accountable.

In an ideal world, all representatives would communicate directly with each and every potential voter. They would be able to promise things to them, share their platform and win over their votes. They would also be accountable for those promises. Sounds like a dream?

Today's technological reality of global access to information and hyper-interconnectivity, and recent developments in Distributed Ledger Technology (i.e., blockchain) and cryptographic currencies, have made this dream a real possibility.

Coalichain's purpose is to realize an effective, democratic and accountable electoral, representational system and reestablish a direct, transparent and trusting relationship between voters and their elected officials.

3.2. Problem – No Real Accountability, No Real Choice

We are addressing two key problems:

- "Carte-blanche" – We normally elect one person or a small group of people that are supposed to speak in one voice – our voice. This representative covers all the decisions. We give them "carte-balance" and we do not have the freedom to express our vote per decision, case or situation.
- Accountability – there is no real accountability for representatives. With no real consequences, they are free to do what they want. Democracies slowly become de-facto oligarchies. Moreover, even if we don't vote for them again, the choice of candidates is so limited, it does not really matter.

3.3. Principles

Coalichain follows several principles, aimed at realizing its above stated purpose:

- **Disintermediation** – break the existing insulation between the candidates and their voters and allow for direct accountable communication[3]
- **Transparency** – all actions made by candidates on Coalichain are visible to all users – voters and other candidates alike
- **Inclusiveness and Democratization** – people can become candidates without the support of major sponsors. Anyone can support a candidate – no matter the amount of contribution.
- **Liquidity** – real life can't be "boxed" into a single representative's views. We think it is critical to have the possibility of splitting our views and empowering different representatives to have our proxy-power for different issues.
- **Accountability** – we teach our kids that breaking a promise has consequences. It's time we all adopt this principle
- **Integrity** – it is vital to keep the integrity of the political process and we try to systematically weed-out foreign interferences or immaterial influences

3.4. Overview

There are two main target audiences for Coalichain. The voters and the candidates (both current and potential politicians, elected officials, leaders, etc.).

If you are a voter who wants to join Coalichain, you will register and identify yourself (using best-of-breed KYC). Each Coalichain user and potential voter will have a unique and virtually impossible-to-tamper-with Coalichain profile and identity. Coalichain users can also become candidates. They can use the many Coalichain features (see below) to present themselves to the voters and try to rally support. They can use the app to raise money, build a network, publish their opinions and more.

The key aspect of Coalichain is smart contract-based accountability. The first stage of implementing accountability would be based on a "carrot and stick" strategy. Voters will be able to condition (thanks to smart contracts and crypto) donations with real results. For example, promise to donate money if a certain bill is passed (the "carrot"). At the same time, voters can impose a fine on the candidate if he fails to uphold his promises. The details of this mechanism are described below.

We hope you are starting to see the bigger picture. Coalichain is a platform for fair and free elections and politics. It gives power to the people and "levels the playing field" with the powerful interest groups. It will incentivize a new generation of effective leaders with a true mandate from the people.

From the candidates' point of view, this type of direct contractual relationship with the voters, means she will not need millions to fund her campaign. Logistics will be simplified. This technology is making it possible for a candidate to communicate, interact and transact with a large public without needing for mass-media outlets. The platform will reduce the cost of elections by a factor of 10 (and up to 100 in certain countries). It means candidates will be freed from the "vice" of the wealthy power-groups and it will reduce the risk (or certainty) of corruption.

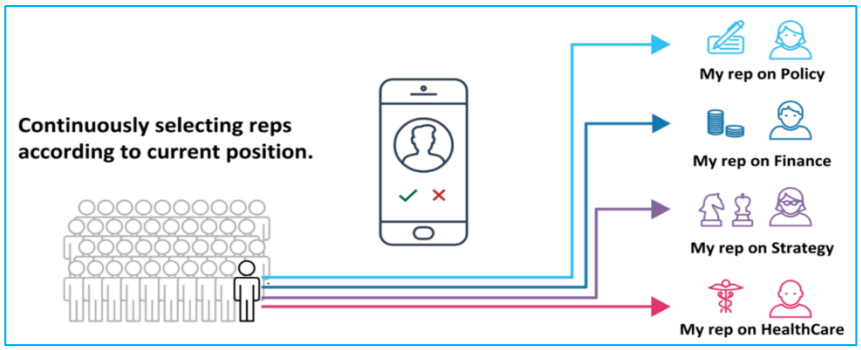
[3] It is true that the proliferation of social media has made it easier for voters to interact with their representatives. However, these interactions are still not an efficient tool for influencing or affecting decision-making and the layer of insulation is still there for most practical purposes. In fact, Coalichain can be perceived as an upgrade to these social media. It will be more transparent, secure and harder to manipulate. It will have built-in accountability mechanisms. A true voice of the people.

Coalichain will be active year-round and not only around elections. It will serve as a direct one-to-many channel of communication and will allow elected representatives to communicate directly with their potential voters about both daily matters, and especially around significant decisions.

3.5. Liquid Representation

Liquid Representation means we have the ability to express our different views about different topics in multiple votes, through multiple representatives. Coalichain allows voters to decide who their rep will be for each topic and they can also change this decision continuously. This means:

- Rich and dynamic reflection of opinions (No more "one vote for everything")
- Better more professional decisions
- Everyone's voice is heard
- Anyone can be a candidate



3.6. Smart Contracts for Accountability

A representative using Coalichain will seal his promises into smart contracts. It means that we, the people, can monitor his promises and actions and rate them. If he does not keep his promises the smart contract will automatically execute consequences that the representative himself recorded.

Here's a concrete example.

- Imagine Bob wants to be a representative in the local municipality.
- Bob promises to be active on topics of education.
- He makes several promises. Let's focus on one of those promises. Bob promises to propose and promote and vote for allocation of city budget to raise salaries for teachers.
- Bob commits this promise into a smart contract with the following condition:
  - If I am elected to the position of [name_of_position], I promise to:
    - Propose to allocate city budget of at least [X], towards raising teachers' salaries at a rate of at least [Y] percent.
    - Promote this proposal by convincing other representatives to support it.
    - Vote for this proposal.
    - Do all that within 6 months of the 1st of the month, following my election.
  - To ensure this condition is met an automatic poll will be launched on the 1st on the month after I am elected. City residents will be able to rate my performance on this issue in this poll. The poll will be closed after 6 months.
  - If the average rating of my performance will be:
    - Below [n], I will reimburse 50% of all ZUZ donations
    - Below [m], I will resign from office

- Residents monitor Bob's activities and rate his performance and the smart contract is activated or not according to the tallied score.[4]

3.7. Key Features

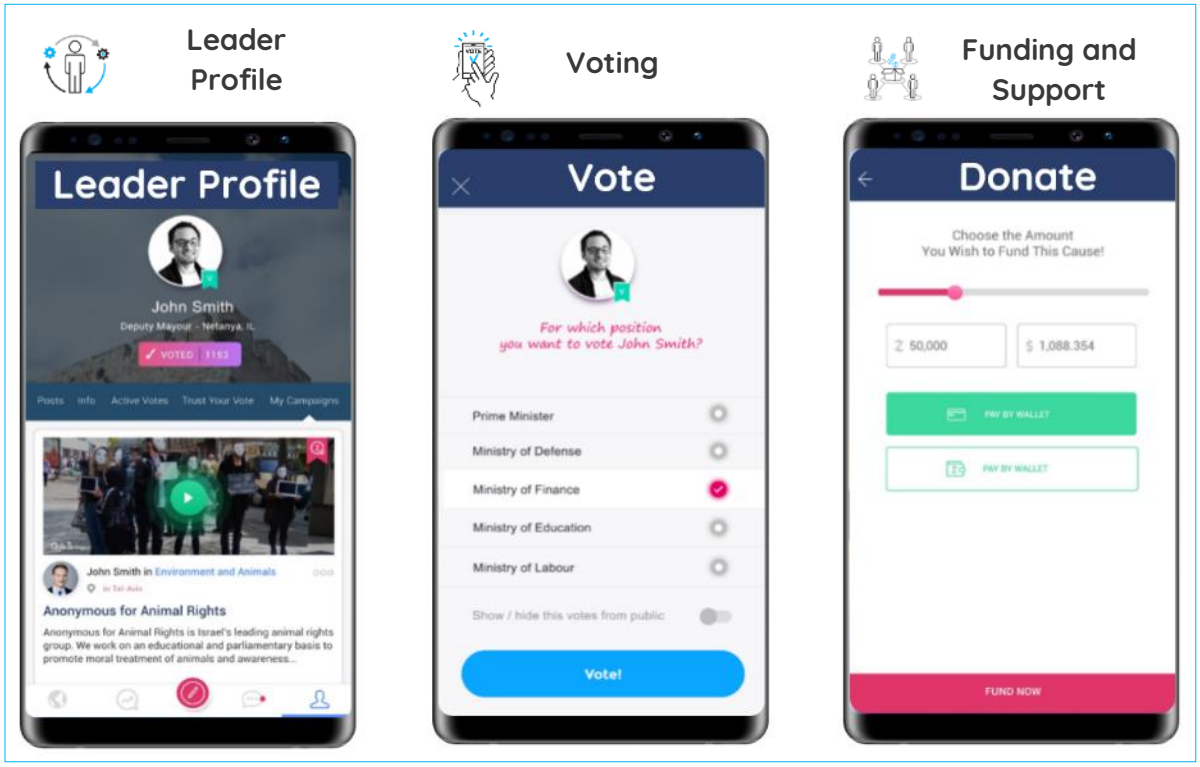
3.7.1. Election Setup and Voting

Coalichain's voting tool is easy to use, adaptable and secure. It can be used for any type of election (DAOS, local government, premieres, corporate board, unions and any other group of people that decide to organize in a representation democratic governance), to vote for candidates, or on polls and surveys.

To maintain the integrity and safety of votes and prevent fraud, both voters and candidates registering to the platform go through a rigorous verification and authentication process, that is recorded on the blockchain and creates a unique ID for each user. Before voting, voters go through a second authentication process. The use of blockchain for authentication, as well as voting itself, makes sure no one can tamper with votes, polls or petitions – not even the platform itself.

3.7.2. Fundraising and Donations

The ZUZ, allows any voter to donate to a campaign, starting from the smallest amount. Candidates can collect donations directly from their supporters, and see which initiative is most important for the voters, based on the amount of funds raised and number of supporters.



[4] Moderation mechanisms and opportunities for the representative to defend their actions will be available on the platform and will make sure this mechanism is not abused. In addition, sanctions can be imposed Pro-rata: If for example 65% of the voters feel that the candidate did not meet his promise (and 35% feel that he either did or that he was justified in not keeping it), the unhappy voters will have the right to claim the pro-rata reimbursement - meaning they can demand 65% of their money (out of the 50% promised) back. There is a range of potential implications for a candidate not keeping his word. Coalichain will offer a "menu" of potential implications, for example, a fine, full reimbursement, denial of additional funds and even resignation. These options will be recorded on the smart contracts.

3.8. The ZUZ

3.8.1. Definition and Purpose

The ZUZ is the crypto-asset Coalichain is using for the operation of the platform. The ZUZ will function as an internal token facilitating transactions, donations, acquisition of services, etc., by users of the platform. It will be the only allowed in-DApp "currency". As the platform matures, we see the ZUZ evolving and becoming a metric for measuring and encouraging participation, influence and impact of people in the different members they belong to (i.e., unit of accounting for caring about and being active in group governance). We call that stage ZU^Z. For more about the ZU^Z see A in the Appendices.

3.8.2. ZUZ Functionality

- **Facilitation of internal transactions –** ZUZ is the official "Currency" of Coalichain – It is used to raise funds, buy services, such as polls and surveys, and for in-kind transactions with service providers such as KYC service providers, or consultants, writers, marketers etc.
- **Support tool** – Voters will be able to use ZUZ to show support. For example, they can use ZUZ to promote and improve the visibility of a candidate on the platform. The impact and popularity of different promises and decisions can be measured by the number of different voters supporting them and by the accumulated amount of ZUZ used to promote them. Since support does not have a price or denomination (it is "liquid"), the ZUZ as a cryptocurrency allowing for micro-payments is not only the ideal tool for inclusion, it is the only tool that allows this type of public support.
- **Accountability** – ZUZ donated to a campaign can be associated (committed) to a specific promise and conditioned by its fulfillment. In case the promise is not fulfilled, sanctions will be activated, ranging from publication of "breaking a promise" all the way to donation retraction and fines (under certain conditions).
- **Community Building** – In being the sole currency for all on-platform transactions it will build a shared sense of trust, purpose, and community.
- **Financial Management** – It will make tracking and financial management easier and more directly related to the platform's performance.
- **Transparency** – Since all commitments (promises enforced with Smart Contracts) made by candidates to supporters are public, anyone trying to influence the election will risk exposure and public ramifications (e.g., loss of reputation).

At a later stage, Coalichain intends to expand the ZUZ functionality to include:

- **Participation measurement** – ZUZ will be used to measure the level of activity, participation and influence its holder has or has demonstrated. These may include: service provision, supporting, voting, publishing information, setting up events and elections, etc. For more about that vision see §A in the Appendices.

3.8.3. FAQ about the ZUZ

- **Shouldn't voting be free?**

  Perhaps. However, voting is not free. Today when we vote, we pay – in time, in gas and of course in taxes. There's a cost associated with elections and governance, and one way or another, the group members need to cover it.

  Coalichain is more than just voting. Candidates that run for office need to finance campaigns and that means donations, services and financial transactions. So, elections are not free.

- **Why does Coalichain need a token?**

  It doesn't. It is possible to use existing crypto-assets such as ether (or any other form of money) to run Coalichain.

- **So, why do we need the ZUZ?**

  Using a platform-dedicated crypto-token insulates the Coalichain economy from other economies (e.g., the ether economy). This insulation provides two key protections:

  - Protection from dilution of value – Value created by the platform-users does not dissipate in the much larger cryptocurrency economy (for example ether).
  - Protection from price fluctuations – If we use ether, we become subject to price fluctuations that are not caused by or related to the activity on the Coalichain platform.

  The value of a crypto-token is set by demand and supply. If Coalichain provides an attractive service, that people find value in, they will adopt and increase demand and with it the price of the ZUZ. This will benefit Coalichain users and especially the early adopters that took most of the risk.

  We created the ZUZ as a dedicated token not because we had to. We did it because we can and because it will benefit our users.

- **So, what's that talk about the ZUZ being a unit of measurement?**

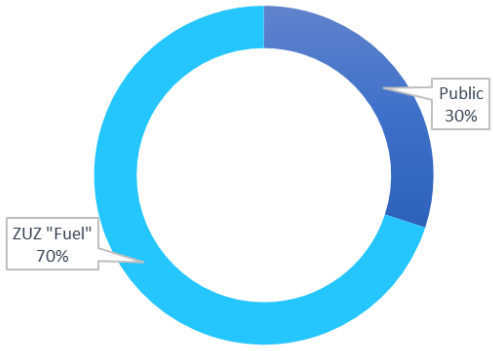
  We see the ZUZ evolving and one day becoming a general-purpose crypto-currency. That is another reason why it is important to set it apart as an independent crypto-token, today.

4. ZUZ Economics

4.1. ZUZ Allocation

Coalichain will issue a total of 770,000,000 ZUZs according to the following distribution:

- Public - 30%
- ZUZ “Fuel” – 70%



Let’s break it down. Coalichain will use the money raised with the 30% offered to the public to fund:

- Platform development - 10%
- Team - 20%
    - Founders: 7%
    - Executive Team: 2%
    - Advisors: 6%
    - Bounties: 5%

If not all 231 million ZUZ will be sold during the crowd sale, the remaining will be transferred into the “Fuel” reservoir. The remaining 70% (or more) will be allocated:

- Charitable causes - 10%
- 60% (or more) for rewarding History-telling and participation – driving liquidity into the eco-system in a rate that is proportional to its growth.

4.2. Discounted ZUZ

In order to avoid a dump of discounted ZUZ sold during the different stages of the crowdsale, there will be a vesting period on all pre-ICO allocated ZUZ: 25% will mature every 3 months.

4.3. Platform Development

The 10% allotted to platform development will serve two missions:

- Development of the platform, including the new feature development, set-up of an open-innovation platform for other development teams and the design, making and maintenance of the Coalichain-dedicated blockchain infrastructure and protocols.
- Funding Coalichain’s geographical expansion to additional locations

4.4. Donation to Charities and Causes

10% of all ZUZ issued will be allotted to charities. These ZUZs will be distributed according to the same schedule described in § 4.2. Any charity organization will be able to apply for a donation and all decision publicly published.

Appendices

A. ZU^{Z} – a new type of currency

ZU^{Z} is the name we use for the future of the ZUZ. It will be a new cryptocurrency that like all other crypto-assets will be durable and easily transferable, and that measures and stores the value[5] of participation in governance.

People that will use the Coalichain platform to participate in the governance of their groups will invest energy through their actions. This investment will yield new value in the performance of the group. That value will be measured and represented by the ZU^{Z}.

Before we delve into the details, we think it is important to review some money fundamentals. It has been our experience that this is a cause of much confusion.

i. Money Fundamentals

a. Measurable Value

What are the fundamental building blocks of a tender/currency/money[6]? Without going into the detailed canonical definitions of economics, we suggest the following necessary conditions:

- **It measures something** – in most cases purchasing power. Being measurable also means it is countable – it has different denominations. $ 100 bill would be meaningless if there weren't other denominations for the dollar.
- **It has, or it represents value** – which means people are willing to use it as tender.

b. Valuing a Currency

Determining the value[7] of any currency (cryptocurrency or fiat) can be done in three ways:

1. **Market Supply[8] and Demand**. Allowing the "free"[9] market to set the exchange rate in, theoretically, frictionless and free exchanges.
2. **Growth-rate of Source(s) of Value.** Measuring the positive or negative growth rate of the sources of value[10] that are reflected in its exchange rate and adjusting its supply to fit that rate. Central banks (try to or are supposed to try to) do that in order to reduce the risk of toxic inflation /deflation.
3. **A bit of both[11]**. The exchange rate of most, if not all, fiat currencies is set by both floating rates in free markets and by the actions of central banks that have control over some of the supply.

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[5] We are alluding to Aristotle's definition of money: durable, portable - or easily transferable, divisible - or serves as a unit of measurement, and intrinsically valuable - let's change that to has or represents value.
The first two conditions describe a technical issue that can easily be resolved with today's technology. The two last condition touch, IMHO, at the true essence of money. It measures something, and it has or represents value.

[6] We purposefully avoid the "sound money" vs "stable money" debate because we think it does not really matter for our purposes. It deals with the distinction between money deriving its value from the free market and money that its value is controlled by a central body, that, for example controls its supply. For more about this: www.aier.org/article/sound-money-project/sound-money-vs-stable-money

[7] In this context, value means purchasing power as reflected in exchange rates (which, therefore, serv as a proxy for purchasing power value).

[8] This a narrow definition of "Supply". Free markets reflect the supply of **existing** money. They, prima facie, do not control the overall supply of money, since only central banks issue new money. This is part of the "sound money" vs "stable money" distinction that discerns money deriving its value from the free market, from money that its value is controlled by a central body. This distinction is a bit detached from what is actually happening. It is now quite easy to circumvent the central supply mechanism. Most free-market financial and legal infrastructures allow [or are coerced by special interest groups (that are able to do that because of the same freedoms) to allow] enough freedom for people to create a variety of financial instruments, from the simplest of tradable shares and bonds to the most complex derivatives. These financial instruments account for at least 90% of the world's money (in its wider definition as a tradable unit of value). There are ~25 bn traded derivative contracts (Source: April 2017 WFE IOMA 2016 derivatives report) compared with ~600,000 publicly traded stocks (Source: www.investopedia.com). That's more than 40,000 derivatives for each traded stock. The value the derivative market reflects ranges between 500 and 1,200 tr USD (Sources: "The Global Derivatives Market – An Introduction", Deutsche Börse, and http://money.visualcapitalist.com/worlds-money-markets-one-visualization-2017). As such, they allow the "market" to affect the actual supply of money in the system.

[9] In an ideal market the fact that the markets do, de-facto, control the money supply, would not be a problem. However, since markets in general and specifically the derivative markets are operated by a small number of exchanges and are dominated by a very small number of very large brokers ("95% of the total transaction volume is split among 20 different OTC derivatives broker-dealers". Source: "The Global Derivatives Market – An Introduction", Deutsche Börse) that enjoy an unfair advantage, they are, in fact, not free.

[10] We talk about the sources of value below.

[11] If you accept my arguments so far, I think the implication is that the "sound" vs "stable" debate is moot.

c. Intrinsic value and representation of value

We've all heard the claim that some types of money do not have intrinsic value. Some people have said that about the bitcoin. Others have said that about the US dollar. What are the implications of this debate? This question becomes more pronounced when one looks at the crypto-token markets with their massive value fluctuations and crashes.

Here's our position: there's a confusion between money having or not having intrinsic value and money being a function of real value created by a group (company, ecosystem or country). Money doesn't have to have intrinsic value. Money needs to **reflect** value. Indeed, we have been using money that has zero intrinsic value for a while now and it seems to be working fine (without implying that it doesn't represent actual value).

d. Underlying Value

What about the claim that if there are no specific, tangible assets backing a currency, perhaps it has no sources of value and the only determinants of its value are the "free" markets and the feeble actions of central banks. The fact that the "free" market is probably the most dominant determinant of the value of money does not mean that money does not have sources of value (it's an enthymeme). We claim that all currencies reflect actual work-driven, underlying value created in the world and appreciated as such by users. This "underlying value" is hidden underneath the local exchange-rate fluctuations (that can be the result of a variety of volatility-inducing events or manipulation or both).

e. Currency Stability

The interesting question is the relationship of the money being minted and the Underlying Value created by the entity minting it. On a long-enough time-scale, and after cleaning out the local fluctuations, we will see that if there is a lasting discrepancy between the traded value (exchange rate) and the actual Underlying Value, the traded value will eventually correct to fit the Underlying Value. In simple terms, if country X issues a currency and if country X's economy (being the underlying value) does bad and, for example, its GDP drops, its currency exchange rate will, eventually, drop proportionally. Even without tangible, clearly visible backing assets, all currencies reflect Underlying Value and have "sources of value". Moreover, if the rate in which a country, for example, is printing and introducing money into circulation is different (faster or slower) than the growth rate of the economy that it represents, it will lead to inflation/deflation and devaluation/revaluation of the currency. If the money is completely disconnected from the actual value being created, there is almost a certainty that such discrepancies will occur, and they can become toxic very fast. If we have something that is measurable, countable, fungible and directly connected to the Underlying Value, we have a good candidate for a new currency that is less likely to suffer toxic fluctuations[12].

[12] It is not a sufficient condition. Stability is also closely related to tradability and control over supply and demand of money. We will address these conditions later.

f. Source of Underlying Value

Here are the assumptions we use when we describe the source of Underlying Value:

- The source of Underlying Value is the energy invested through purposeful action. This means two things:
  - The only way to create new underlying value is by investing energy into the system.
  - That energy being invested is "directional". If it promotes the purpose of the economy, it creates new value. If it impedes, it destroys existing value.
- Different actions (invested energy), applied by different agents, at different times and circumstances create/destroy value at different rates.
- It's possible to measure the value created/destroyed.
- It is possible to change the unit of measurement over time without destabilizing the economy.
  If we look at fiat money, and if we exclude non-productive actions, such as forex or derivative trading, the remaining volume of activity is a very good proxy for the energy invested by the people using the money in the economy that it represents. It means, under these assumptions, that the value represented by the money comes from the users of that money in an economy. If we count and tally the commercial monetary transactions, we can have a measurement of the overall value being created and its growth rate.

g. Viable, Stable Money in a Blockchain, Crypto Environment

We can now suggest that for a cryptocurrency to be viable and stable, it must adhere to the following conditions:

- It reflects and measures the Underlying Value or at least something that directly depends on the Underlying Value
- It is adopted and productively used by a large enough group of users
- Unproductive use is limited and very small in comparison to productive use

h. Fixed or Inflationary

What's better, limiting the total number of coins to be minted (as is the case with bitcoin), or generating new coins as the platform's economy grows in an inflationary model (as is the case with Ether and most fiats)? For all intents and purposes, it does not matter. For money to be both viable and useful it needs to be stable enough for people to use it. In simple words, we want the money to represent the actual Underlying Value of its economy. We assume that the Underlying Value of money comes from the users of money in an economy, the more people using it implies that more Underlying Value is being created. If the economy doubles in size, we need to double the purchasing power of money. We can do that either by printing more money (at the rate of the growth of the economy it represents) or by revaluating its exchange rate. If we print more money I will pay 1 dollar per apple just as I did before the economy doubled. If I don't print more money, I will only need 50 cents to buy the apple – which effectively means that the money I have now represents twice the value.

The latter is more difficult with fiat money, since the lower denomination limit of most fiat currencies is not small enough (10^{-2} in case of printed/minted fiat and 10^{-4} in the case of digital fiat). Cryptocurrencies/tokens, like bitcoin and Ether are much more adapt for this type of approach with an almost unlimited denomination minimum (10^{-8} in the case of bitcoin and 10^{-18} in the case of ether). This is the source of the crazy-sounding predictions that a single bitcoin will one day be worth up to 100 million dollars. They are not that crazy. If the bitcoin would have been adopted as a global currency, and if it had replaced all of the fiat money today, the value of 1 bitcoin would have been around 5 million dollars and 1 Satoshi would have been worth 5 cents.

Satoshi Nakamoto opted for a fixed number of coins and a revaluation of the currency. However, he did not flow the entire amount into circulation. The mining process exposes new bitcoins out of a limited “reservoir”. Think of this like the central bank printing new money whenever they need to pay for certain work that is being done (that work being a proxy indicator for the growth of the economy). Since the supply is limited, the value of the money will go up and the number of coins to be minted and payed will go down. Since bitcoin is decentralized and has no central body to regulate this process, Satoshi Nakamoto came up with an elegant solution – the number of bitcoins generated per block is halved every 210,000 blocks. The number of blocks created provides an indication for the size of the economy and therefore an indication of the growth of the Underlying Value behind the bitcoin (completely ignoring the markets and the exchange rate volatility). Simplistically, If the underlying value doubled, the worth of the bitcoin should double as well and the pay for the same work should be halved.

Clearly this is a simplification. There are a lot of assumptions and approximations. Nevertheless, the rationale is sound. To make a cryptocurrency stable enough for people to use it, we should connect its supply to the size of the Underlying Value it represents. Adoption, use-rate, # of transactions, these are all good indications for the size of the economy.

ii. Introduction to the ZU^Z

The purpose of the ZU^Z in the 2nd phase is to serve as a unique currency. The ZUZ will translate personal influence, participation and social capital into a transactional currency that can be used to incentivize people to participate and to allow them to monetize on their governance related activities.

a. Definition

Let 1 ZU^Z be the average value created by all Influential participation on the Coalichain blockchain that fits a single block[13].

Influential participation will be defined by the following function: 1 ZU^Z = [Function of the cost of producing a block]+[Function that connects the number of transactions with a decay mechanism]

b. Valuation

The minimal value of 1 ZU^Z will be the cost of creating and maintaining the Coalichain blockchain for 1 second.

c. Pricing the ZU^Z

The price of money is affected by:

1. Cost of production
2. The underlying value it represents (its economy)
3. Supply and demand (scarcity)

The price of the ZU^Z is affected by the same 3 factors.

Cost of production as the baseline, value of activities (participation in governance) as the underlying value, and a combination of scarcity and expected growth as the future value.

Say that a Historian (block producer) creates a block on the Coalichain blockchain. He can either be paid with ether or with ZU^Z. If the value of the ZU^Z is connected to the size of the network and the volume of activities recorded, the Historian will prefer to be paid in ZU^Z, if she thinks that Coalichain adoption will grow. If Coalichain indeed grows then, 1 ZU^Z she earns today will be worth more tomorrow.

This is how the ZUZ will drive participation - people participating will be remunerated with a coin that has a value that depends on how much people participate. The early adopters will be rewarded for the risk they took.

[13] Block-size limit to be defined

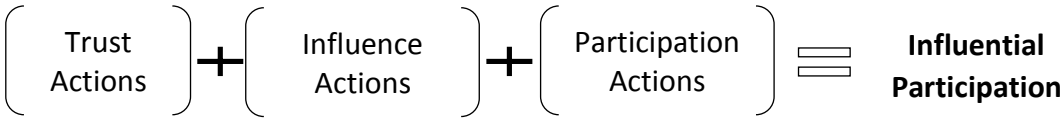
iii. "Under the Hood" – The ZU^Z Value Engine

a. Influential Participation ⇒ Value

We believe[14] that people should participate more in group governance. We believe that the more people influence their group's activities by participating in decision-making, the better their group will be - the more productive and efficient it will become. In short, we believe that the value created by any group of people is a function of the influential participation of its members.

b. How Much Participation?

Say we want people to participate and influence more. How much more? How do we quantify influential participation? We came up with an equation to describe how we will measure influence through participation:



- **Trust Actions** are actions, by a group member, that reflect the trust of that group member in another group member. For example, delegating his vote to a representative.
- **Influence Actions** are actions, by a group member that directly affect group's governance. For example, incepting a group, inviting new members, proposing a new delegate, proposing a resolution and voting.
- **Participation Actions** are also actions, by a group member, that affect the group governance, but not directly. For example, publishing an opinion post, sharing, commenting, following/unfollowing, liking/disliking, attending an event, and responding to a poll.

Important notes:

- This distinction is significant for two reasons: 1) it affects the value tariff of the different actions, and 2) it is useful for demarking the actions that should be recorded on the blockchain (trust and Influence) and those that should not. The participation actions are far more frequent and at the same time, do not demand the blockchain immutability (as long as we record their value).
- This taxonomy is not "set in stone". Different groups may opt for, or suggest, different taxonomies.
- This "participation algebra" that we will elaborate on, is not absolute. There is no one value measurement formula that we simply need to uncover. Our approach is pragmatic. The values we assign the different actions are a calculated guess. We expect them to change and evolve over time and with each group. It is also possible that the taxonomy itself will evolve, if the user community will indicate that this is needed.

c. Promoting Participation

When members participate in governance (in any way – it could be liking something or running for office – different actions will have different values), they are rewarded twice. First, their Influence Score[15] ("I-S") is updated. That means that Zetas are added to their wallets according to an agreed tariff, that will be public and adjusted periodically to fit changing circumstances and group needs. Second, group members will be allowed to transfer their I-S to special mining nodes ("Historians") and get a pro-rata reward for the work done in recording the new I-S, or other records onto the blockchain. This mechanism can be used to disincentivize destructive behavior. If people do not trust a member, and show that by either stating it, her I-S will go down and with it the rewards she could get in the History-telling process.

[14] We have not, nor will not prove this assumption to be true in this white paper. Think of it as something that is self-evident for us. If for you it is not, perhaps this paper is not for you.

[15] The term "Influence Score' is central to this white paper. We will describe it in detail below. In a nutshell, it is a gauge that is used to measure individual participation in governance.

iv. "Under the Hood" – Proof of Influence Protocol

a. Overview and History-telling

Proof of Influence is a new consensus algorithm. Its rationale is simple. We separate the remuneration for the work of encrypting the new block from the mechanism that ensures the chain is not contaminated by malicious mining nodes. Here's a quick overview:

- Actions of the nodes/members are scored
- This score is attributed to individual members
- The score is both recorded on the blockchain and is used a sort of Stake in the consensus protocol
- Members with an I-S that is higher than a set bar (e.g., the top 10%), are allowed to be Historians – the "miners" of the blockchain[16].
- Once you become a Historian, you must keep your I-S above the minimum bar, to keep the right to "Tell History". In addition, you are allowed to pool the I-S of other members. However, this will only affect the reward you will get for mining. It will not improve your probability of being selected to mine. The only criterion is the minimal bar. If one Historian has an I-S score that is twice that of another Historian, he will not have a higher chance to win the right to mine a block. The mining is assigned randomly.
- The reward for the work covers the cost of the work, plus an additional amount that is proportional to the I-S of the Historian and that of all the members that assigned him with their I-S.

Every time a historian is mining a new block, she is staking her entire I-S and that of the people who gave her their proxy I-S. All other Historians can see the block she adds. If they flag it as false, and indeed it is verified as false, she will not only lose her entire stake, she will lose the stake of everyone who gave her their own I-S.

The most likely candidates to be Historians are the people that are active, as candidates or representatives. This means that they are trust worthy – because literally people gave them their trust, are the ones that are entrusted with keeping records clean. They are selected at random, so they don't know when they will validate which transaction. They are rewarded and they distribute the reward between their supporters pro-rata.

b. The Influence Score (I-S)

Coalichain records the activities of group members and tallies them into a personal Influence Score (I-S), that gets recorded on the blockchain as an asset assigned to a unique user. The I-S is directly proportional to the member's activities and if she misbehaves/becomes inactive, her I-S may be reduced. The I-S acts as a record of "stake" in the process of forging new blocks. Every member in the group, and possibly, across groups, delegates her I-S to the "Historians". Delegation is random. The share of I-S holding and pooling is limited (in order to avoid few nodes holding too much power). Creating new blocks – History-telling – awards the Historian with Zeta from a platform "fuel" reservoir. Zeta's are distributed, pro-rata, between the different I-S delegating members, with a larger consideration to the Historian. Simply put, the more people participate in the decision-making process the higher their I-S will be, the more reward they will get via the History-telling process.

Moreover, different groups may decide to use the I-S for other purposes. For example, it can be used to define a minimal barrier for becoming a representative, by demonstrating real action and not just talk.

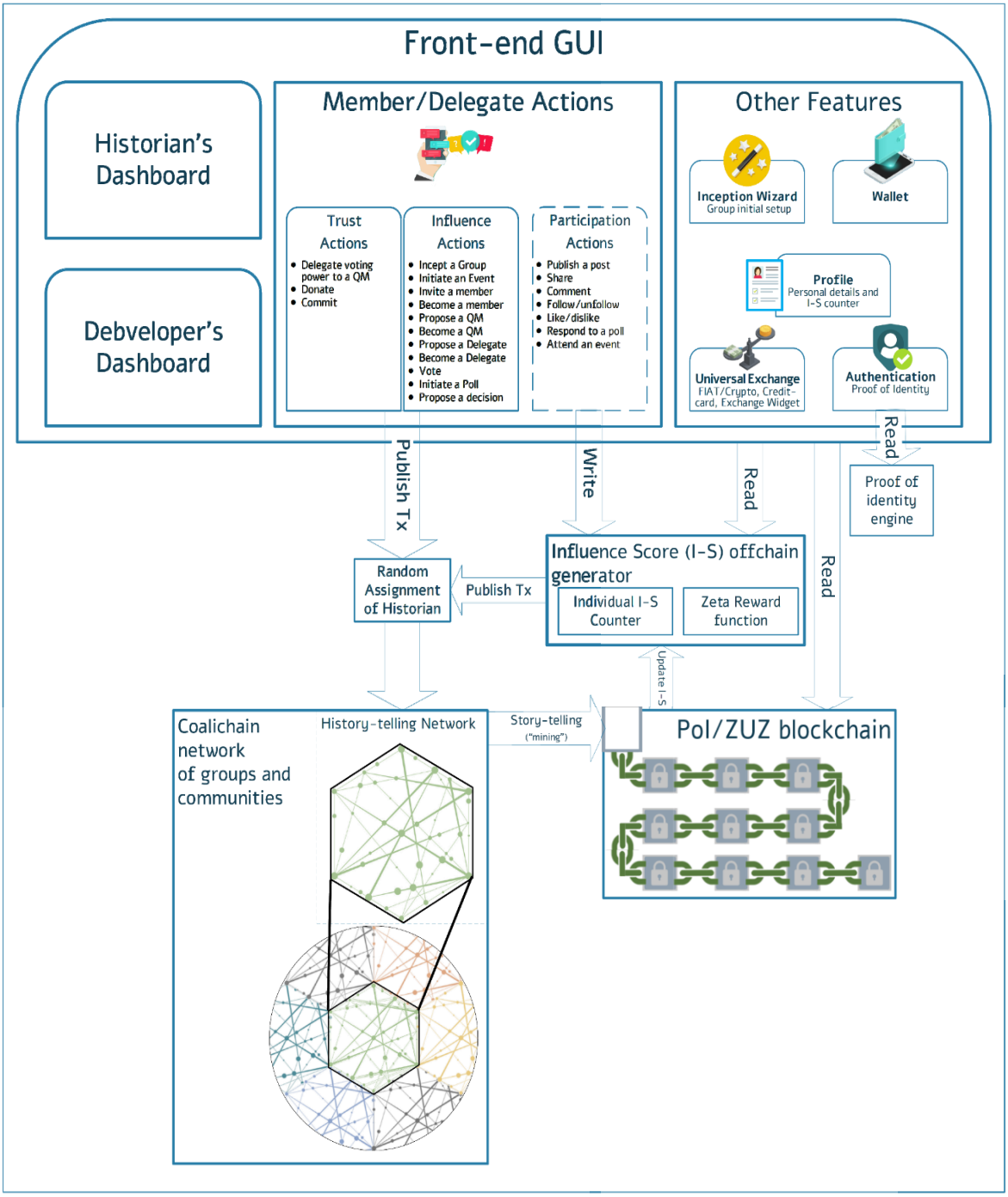
c. Tariff and Reward Functions

We are still working on the participation tariff and History-telling reward function and we will publish them soon. They will include an internal decay mechanism that will most probably be tied to the overall I-S counter. The Rationale is that there should be a connection between the value of the ZUZ and the amount awarded. Instead of guessing this relationship by using an exponential decay, we use the counter of the I-S (the sum of all of the individual scores), as a metric that indicates the platform's actual growth rate. This way the tariff adjusts automatically to reflect the real value of the ZUZ (based on the underlying value).

[16] They do not need to own specialized hardware or be crypto-savvy. Those capabilities are a commodity nowadays.

d. Architecture and Protocol Mechanics

The schematic architecture described below, discerns between “on-chain” and “off-chain” processes. The rationale is simple: Recording anything on the blockchain has a cost. That cost is a direct result of the cryptographic mechanism designed to keep the blockchain immutable. The implication is that Coalichain will only record things on the blockchain that we have a strong interest to keep immutable. That is why we do not record participation actions.

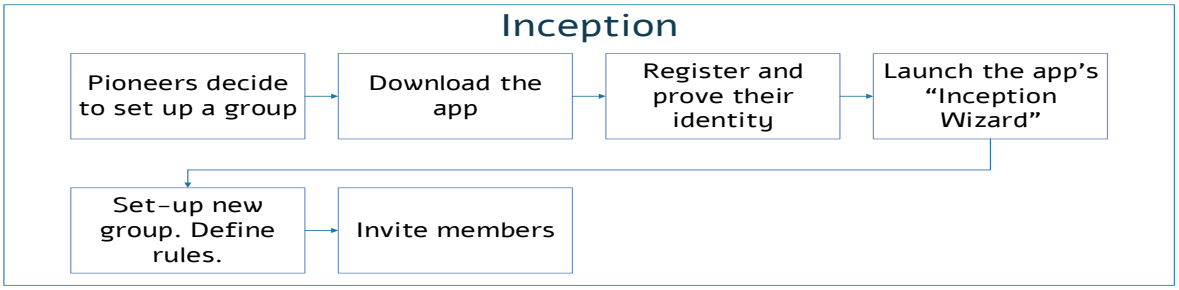


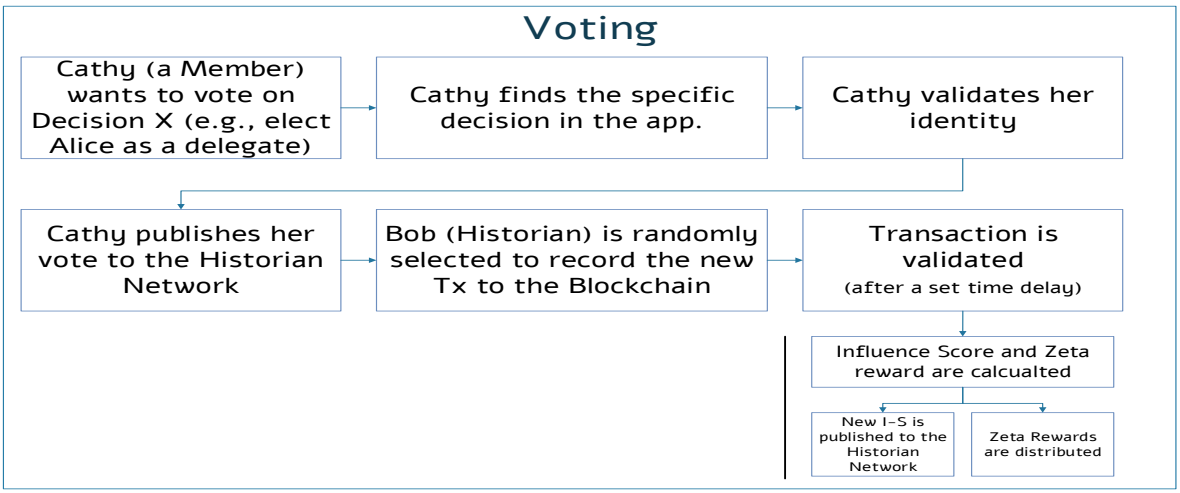
e. Adaptiveness

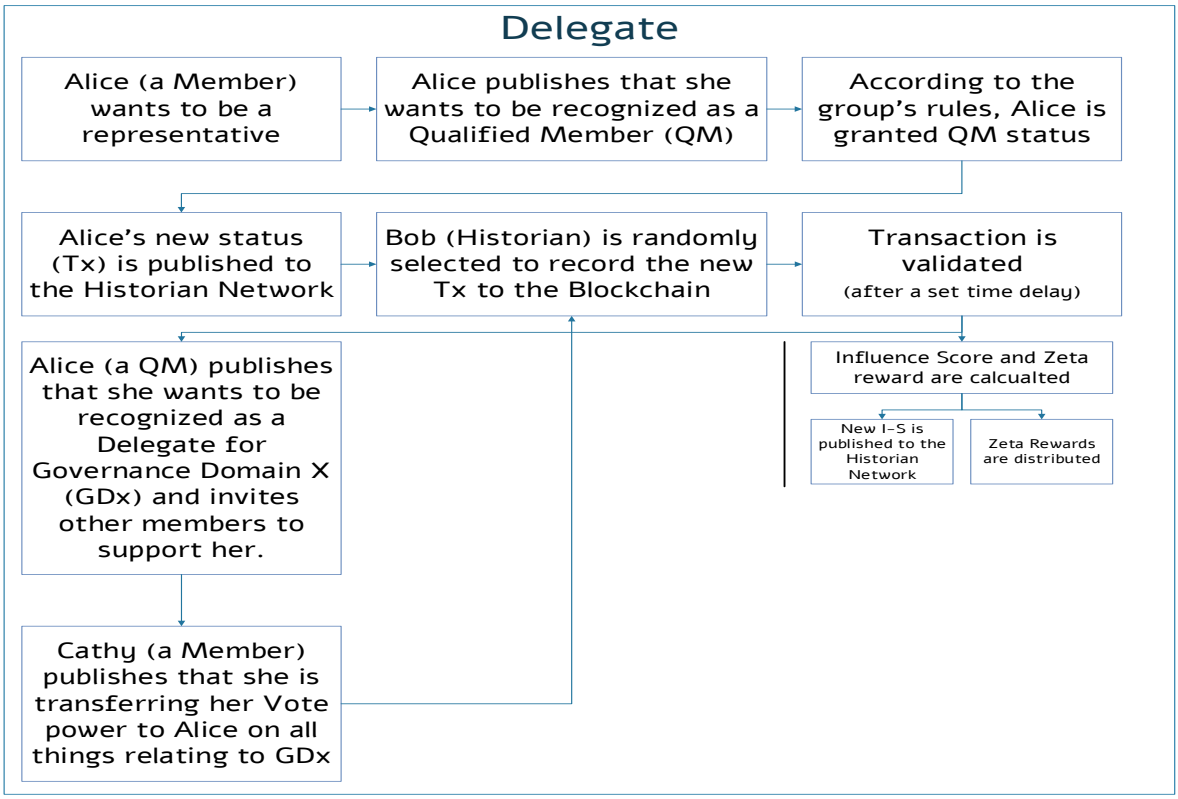
The PoI protocol is designed to measure participation and influence. We don't think there's a single formula for calculating and evaluating that. That is why the protocol is designed to adapt to changing circumstances and to fine-tune its algorithm.

1. **List key actions:** Try, as best you can, to list as many as possible value producing actions (trust, influence and participation Actions)
2. **Prioritize:** Arrange them randomly or by intuitive order of importance in their role in creating value
3. **Create a scale:** Assign relative values to them according to the prioritization
4. **Measure:** Count the actions
5. **Tally:** Add the values according to the different types of actions
6. **Evaluate:** Check the result to see if it correlates with other value measuring metrics (inc. for example, group members' satisfaction with the results)
7. **Adjust:** Change weights, values and tallying function to mitigate gaps and go to 4

f. Examples of protocol application







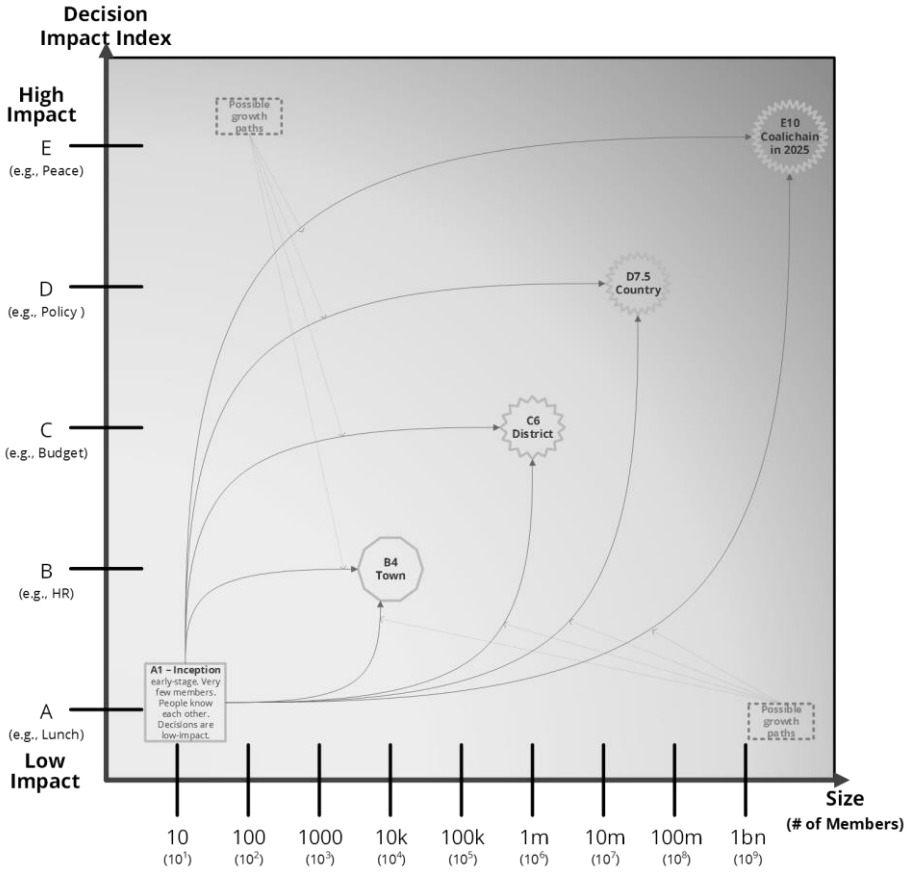
B. Ontology

General caveat: We do not presume to produce a complete extensional ontology here. What we offer is a taxonomy that can be expanded and augmented over time. As such, please assume this is a work in process that will never really end.

i. Things

a. Groups

- **Group X (GRPX)**: A set of people, organizations or things, that identify themselves and are accepted by other members of that set as belonging to that set and that act in a way that affects other set members. The source of this identification can be a shared purpose, geographic location, language, etc.
- **Classification of the Groups**: We map the Groups in the Coalichain eco-system on two axes:



- **X axis: Group's Size (# of Members) –** a decimal exponential scale with X marking powers of 10 (0-10).
- **Y Axis: Decision Impact Index –** an arbitrary index (A…E) reflecting the magnitude of impact the Group's decisions have.

Each Group can be mapped on this matrix. For example, A1 denotes a Group of 10 members with a low impact decision mandate, while D3.76, denotes a Group with a high-impact decision mandate and 5754 members.

Each Group incepts at the bottom left and grows according to different possible paths to its potential.

The functionality required for an A1 Group is very different from the functionality needed for an E8 Group. As the Group grows more possibilities and functionalities will become available.

The reason for this is that we think it is important to start off simple and easy and not overwhelm the Group with a menu of options that are not yet relevant. As the Group matures, so will its ability to understand and use additional functions.

b. People/Nodes

- **Pioneer:** The person that incepts GRP_X. The person registering GRP_X can nominate up to [X] other people to be defined as Pioneers (pending KYC).
- **Member (M_{GRPX}):** User belonging to GRP_X, registered to the platform, KYC-verified / eligible to vote.
- **Qualified Member (QM_{GRPX}):** A Member that is allowed to serve as a proxy voter (allowed to vote for others). Voting for others is not a general permission. It is always assigned to a specific Governance Domain (GD, see below). QMs can be candidates and run campaigns to persuade members to delegate them with their votes.
- **Delegates ($DLG_{GRPX/GDi}$):** Qualified Members that have the power to vote on specific GDs by other members. Members can transfer their vote on specific GDs to QMs. This right can be revoked at any time. The extent of this right can be configured during the Inception.
- **Historians:** The "miners" of the Coalichain Blockchain (CB, see below). The Historians are specialized nodes in the network with the right to validate the new CB blocks. According to the Proof of Influence Protocol. Similar to PoS, they are selected at random with their weight determined by their Influence Score pool.

c. Governance

- **Governance Domain i of GRP_X (GD_{Xi}):** Topics/issues that are in the decision mandate of Group X. These are determined by the Pioneers during the Inception (see below) and can be altered according to the Governance decision making processes also defined in the inception.
- **Decision (D):** A specific question up for decision in one of the GDs.
- **Support Event (SE):** A physical or virtual event, limited in time, in which members debate a specific Decision.

d. Digital things

- **Coalichain Blockchain (CB)**: Coalichain's Blockchain and the only source of rewards for Historians and active Members based on PoI.
- **ZUZ:** A Coalichain-dedicated cryptocurrency, used for all on-platform transactions and as a means of measuring influence and rewarding Historians, and preventing SPAM. Generated by Coalichain in a single TGE.
- **Zeta:** Participation-generated ZUZ. The Zeta is a type of ZUZ, exclusively used by the Coalichain platform to demark rewards that come from either block validation or members' participation activities. 1 Zeta = 10^{-8} ZUZ.
- **Influence Score (I-S)**: A function that counts Zeta awards. Actions taken in the Group and History-telling, award the Members with participation-generated Zetas, according to a set tariff.
- **Proof of Influence (PoI):** A consensus protocol, similar to PoS, that is used for determining a single history of activities and decisions. Historians enter a draw to win the right to validate blocks on a PoI CB. Their weight in the draw is determined by their pro-rata, Influence Score. Pooling I-S is not only possible, it is the default state. However, Pooling cannot exceed 0.5% of the total I-S.
- **Public Profile (PP)**: Each member will have a record of his/her relevant attributes and actions, kept on the CB.

i. Processes

a. Foundations

- **Inception:** Creating a new Group on the Coalichain platform. Pioneers define: GDs (to determine GRP classification), Uses (e-voting in A1 GRPs), Member Classes (just Members in A1 GRPs), On-/Off-chain,

required majority for changing governance policy, specific voting policies (for example if approval of a vote is required, if a voter can decide to change Delegate if she is unhappy with a decision, Decision proposition criteria, etc.)

- **Changes Governance Rules:** The process of changing the configuration defined in the Inception, including criteria, adding/removing GDs etc. All depending on the Group's settings.
- **Become a Member:** Being approved as a Member – customizable, authentication process designed to ensure that the member is eligible to be a part of GRP_X.
- **Become a QM:** Being approved[17] as a Qualified Member – customizable, authentication process designed to ensure that the Member is accepted by the Group as a GD-specific QM. For example, authentication of formal credentials and internal criteria such as: top 10% Influence Score (I-S).
- **Become a Delegate:** The process of being authorized to vote for at least one member on at least one GD.
- **Become a Historian:** The process of being approved as a "mining" node in the CB.
- **Polling:** All Smart Contract commitments will include auto-activation of a poll that will allow members that are a party to the smart contract, or to other members, if so defined, to rate the performance described in the smart contract.

ii. Actions

As mentioned above, we identify and discern three groups of actions: **trust, influence** and **participation** actions. The following list is not exhaustive, and we expect it to evolve over time.

b. Trust Actions

- Delegate voting power to a QM.
  A Member gives his/her vote per specific GD to a QM for that GD.
- Donate to support a Delegate or QM
- Commit to groups Member(s)

Any member that makes a conditional promise to other members and committing it and the ramifications of breaking that promise into a smart contract.

c. Influence Actions

- Incept a Group
- Initiate an Event
- Invite a member
- Become a member
- Propose a QM
- Become a QM
- Propose a Delegate
- Become a Delegate
- Vote
- Initiate a Poll
- Propose a decision

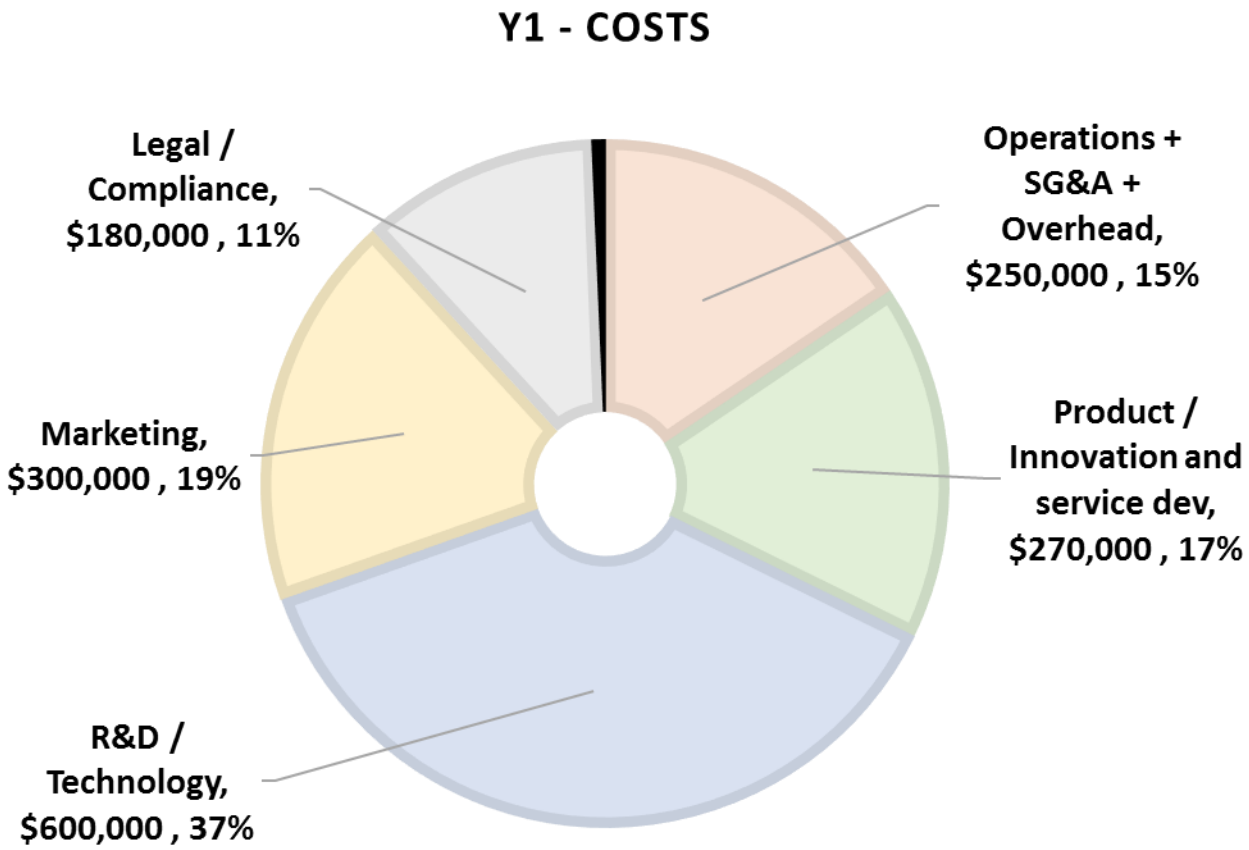
d. Participation Actions

- Publish a post
- Share
- Comment

[17] Part or all of the KYC, can be done by a 3rd-party service provider, or by the Group members (open to all or a selected Group). This depends on the size of the Group, the qualifications of its members and the level of authentication chosen by the Group. Note that the term "KYC" is used without determining the method and as a general term that describes an authentication process.

- Follow/unfollow
- Like/dislike
- Respond to a poll
- Attend an event

C. Use of proceeds



Use of Proceeds	Y1	Y2
Operations + SG&A + Overhead	$ 250,000	$ 2,250,000
Product / Innovation and service dev	$ 270,000	$ 510,000
R&D / Technology	$ 600,000	$ 590,000
Marketing	$ 300,000	$ 570,000
Legal / Compliance	$ 180,000	$ 120,000
IT	$ 10,000	$ 740,000

D. Coalichain Team

i. Leadership

- Levi Samama, Founder, CEO
  Serial Entrepreneur and investor. Founded and led marketing and real-estate companies. Expert in finding problems, designing solutions and getting things done.
- Shay Galili, Co-founder, CGO (Chief Growth Officer), Interim-CTO
  Experienced in building, managing and consulting on digital marketing tools and strategies for political campaigns, Shay's strategic skills are magical.
- Shahar Larry, Chief Concept Architect
  Lead writer/editor of this white paper, Shahar is an international innovation expert, experienced in designing and realizing innovations and (esp. DLT) strategies.

ii. Technology Development

- Daniel Jaffe, Head of Blockchain Development
- Kapil B Grover, Head of Mobile Execution
- Virendra Kumar, Senior PHP Developer
- Rakhi Bhardwaj, Project Manager
- Sahil Bharti, Senior Android APP Developer
- Aditya Solanki, Senior iOS APP Developer

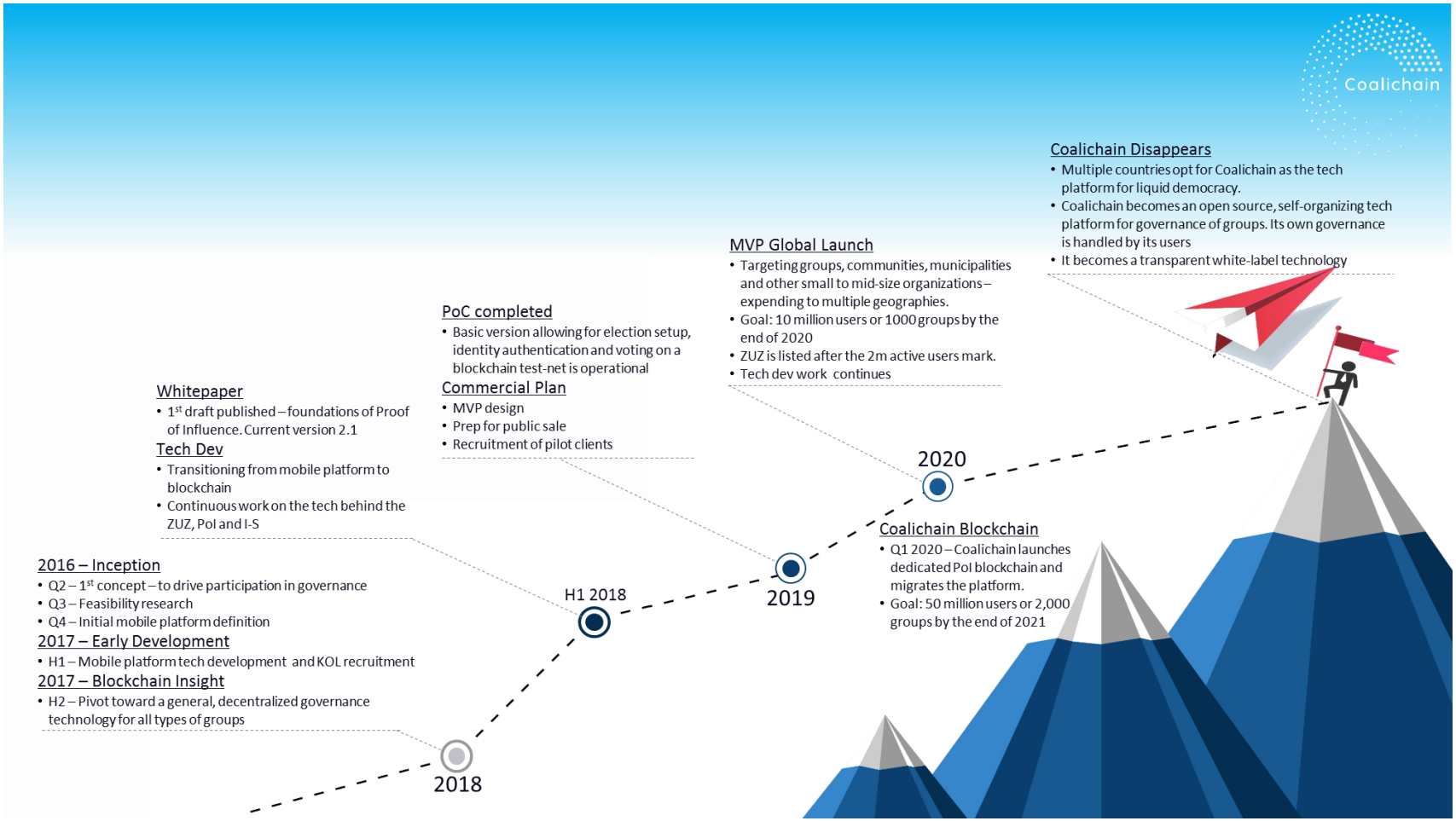
iii. Business Development & Marketing

- Partnership Management
  - Eliahu Dynovisz
  - Moti Ovadya
- Marketing
  - Erez Yaffe
- Design
  - Elie Suzan
  - Gidon Burcat

iv. Advisors and Ambassadors

- Olivier Rafowicz, IDF Col. (retd), communication expert
- Frédéric Lefebvre, Former Secretary of State - Former Member of UMP, LR & National Assembly, France
- Gregory Zaoui, Mobile development expert
- Marc Lipskier, Blockchain expert
- Ilja Šmorgun, Ph.D., Usability specialist, Coalichain's Ambassador to Estonia
- Edgar Kampers, Cryptocurrency architect, Coalichain's Ambassador to The Netherlands
- Adnan Javed, Blockchain Business Strategist, Coalichain's Ambassador to Australia
- Ilja Šmorgun, Coalichain's Ambassador to Estonia
- Peter Merc, Ph.D., Blockchain Legal Expert, Coalichain's Ambassador to Slovenia
- Quentin Lefebvre, Coalichain's Ambassador to France
- Thierry De Gorter, Blockchain Expert, Coalichain's Ambassador to the UK
- Vadim Fainshtein, Web, Mobile Technology

E. Roadmap


Coalichain
Coalichain Disappears
• Multiple countries opt for Coalichain as the tech platform for liquid democracy.
• Coalichain becomes an open source, self-organizing tech platform for governance of groups. Its own governance is handled by its users
• It becomes a transparent white-label technology
MVP Global Launch
• Targeting groups, communities, municipalities and other small to mid-size organizations – expending to multiple geographies.
• Goal: 10 million users or 1000 groups by the end of 2020
• ZUZ is listed after the 2m active users mark.
• Tech dev work continues
PoC completed
• Basic version allowing for election setup, identity authentication and voting on a blockchain test-net is operational
Commercial Plan
• MVP design
• Prep for public sale
• Recruitment of pilot clients
Whitepaper
• 1st draft published – foundations of Proof of Influence. Current version 2.1
Tech Dev
• Transitioning from mobile platform to blockchain
• Continuous work on the tech behind the ZUZ, PoI and I-S
2016 – Inception
• Q2 – 1st concept – to drive participation in governance
• Q3 – Feasibility research
• Q4 – Initial mobile platform definition
2017 – Early Development
• H1 – Mobile platform tech development and KOL recruitment
2017 – Blockchain Insight
• H2 – Pivot toward a general, decentralized governance technology for all types of groups
2018
H1 2018
2019
2020
Coalichain Blockchain
• Q1 2020 – Coalichain launches dedicated PoI blockchain and migrates the platform.
• Goal: 50 million users or 2,000 groups by the end of 2021

Endnotes

[i] https://freedomhouse.org/report/freedom-world/freedom-world-2017

[ii] https://www.statista.com/statistics/257337/total-lobbying-spending-in-the-us/

[iii] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1375082

[iv] https://www.idea.int/sites/default/files/publications/voter-turnout-trends-around-the-world.pdf

[v] http://www.worldbank.org/en/publication/wdr2017