

Maya: A Global Governance Layer

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Abstract

Maya is a blockchain-based liquid democracy governance protocol layer designed to empower individuals, organizations, and nation-states in fostering more inclusive, accountable, and transparent policies.

Blockchain technology has ushered in an era of transparency and interconnectivity, transforming how we transact, collaborate, and govern. This unlocks more efficient ways to rethink outdated systems that have long hindered economic and social development. Traditional centralized governance structures, characterized by bureaucratic inertia and a lack of direct citizen involvement, struggle to meet the dynamic needs of modern societies. In response to these shortcomings, the concept of decentralized governance emerges as a transformative paradigm capable of fostering innovation, inclusivity, and efficiency. This paper illuminates the shortcomings of traditional democratic models, failures in Sovereign Development and advocates for a reevaluation of frameworks, proposing a liquid democracy governance layer built on a social framework with digital twin integration as a solution to address systemic failures. A productive currency and economy to replace current consumption transaction-based economy that underpins the debt structure and strengthen the GDP of nations. By tackling issues such as opacity, unequal participation, short-termism, and economic disparities, we aim to lay the foundation for a more robust, inclusive, and responsive democratic model aligned with the evolving needs of society.

1. Introduction: The Failures of Traditional Democracy and Sovereign Development

Traditional democratic models, once heralded as paragons of participatory governance, have faced a litany of issues that threaten their very essence:

1. Opacity and Inefficiency: Traditional democracies often suffer from bureaucratic red tape and inefficiencies, slowing down decision-making

processes and hampering responsiveness to the needs of citizens. Coupled with the opaque decision-making processes in many democratic systems citizens are left in the dark about the rationale behind policies and regulations. This lack of transparency erodes trust in government institutions and undermines their legitimacy. Inefficiencies and bureaucratic bottlenecks further hinder the timely implementation of crucial initiatives.

2. Inequalities in Participation: The ideal of "one person, one vote" has faced significant challenges in ensuring equal participation. In reality, certain demographics often find their voices drowned out, leading to skewed policy outcomes that do not fully represent the diversity of the population.
 3. Short-Termism and Partisanship: Traditional politics can be marked by short-term thinking and partisan gridlock, where the pursuit of re-election or narrow party interests takes precedence over the long-term well-being of the populace. This shortsightedness has dire consequences for addressing complex global challenges.
 4. Economic Disparities: Many democratic systems struggle to tackle widening economic disparities. The mechanisms for wealth redistribution and inclusive economic growth often fall short, leaving vulnerable populations at a disadvantage.
 5. Lack of US Dollar Liquidity: The majority of emerging markets suffer from a lack of US Dollar liquidity. This is due to a lack of local capability and resources to export goods and services.
 6. Poor Debt to GDP: Due to the lack of US Dollar liquidity, most emerging economies have a poor Debt to GDP, often reliant on loans from the International Monetary Fund or other Multilateral Organizations to underpin their local currencies or risk hyperinflation.
 7. Lack of Master Planning and Strategic Vision: Traditional democratic models often lack comprehensive master planning and strategic vision, which are crucial for long-term development and stability. The focus on immediate concerns and electoral cycles frequently overshadows the need for forward-thinking strategies and cohesive planning. This absence of strategic foresight can result in fragmented policies, missed opportunities for sustainable development, and inadequate responses to emerging global challenges. Effective governance requires not only addressing present issues but also anticipating future needs and planning accordingly to ensure resilient and adaptable systems.
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Maya

Maya is a blockchain-based liquid democracy governance layer built on a global digital twin designed to empower individuals, organizations, and nation-states in fostering more inclusive, accountable, and transparent policies.

Maya Digital Twins

Maya's photorealistic digital twins will be developed under the public-private partnerships with governments developing the virtual governance layer that connects all smart cities. Maya's on-chain digital twin systems are powered by Reality OS and designed to foster relationships between government and the general public. Each City has a digital representation in the virtual layer, Users have digital avatars that interact within these city spaces.

Citizens and Governments can utilize the digital twin framework to propose ideas and infrastructure, vote to understand demand, directly finance and tender via the Maya platform. The digital twin layer facilitates cross-border trade between Nation States and Network States, providing transparency and further access to foreign direct investment from Maya's global audience. Digital twins can be utilized by governments to support with their spatial planning and civil design such as traffic systems, utilities infrastructure etc.

The DataCoin and Halon tokens become the primary currency in the Maya virtual ecosystem.

Digital Twin Architecture

The Digital Twin Architecture is structured into layers:

- a) Infrastructure Layer:
 - a. Represents physical city infrastructure.
 - b. Monitors real-time status and predicts maintenance needs
 - c. Halon tokens are earned by companies or individuals who accurately predict or prevent infrastructure issues.
- b) Environmental Layer:
 - a. Displays real-time environmental data
 - b. Users earn DataCoin for contributing data via personal sensors.
 - c. Cities earn Halons for meeting or exceeding environmental targets.
- c) Economic Layer:
 - a. Visualises economic activity, job markets and business health
 - b. Businesses can earn DataCoin for sharing anonymised encrypted economic data.
 - c. Economic forecasting becomes more accurate, allowing for better policy decisions.
- d) Social Layer:
 - a. Represents social interactions, community events and cultural activities.
 - b. Users earn DataCoin for organizing events or contributing to community projects.
 - c. Social cohesion metrics could influence Halon distribution to cities.

Governance Framework

Maya's Governance Framework introduces innovative approaches to decision-making that prioritize informed participation and equitable influence. Liquid Democracy allows users to delegate their voting power, tied to their Halon holdings, to experts in specific fields. This delegation is fluid, enabling users to change their representation at any time, fostering more informed decision-making while ensuring broad participation. Quadratic Voting is employed for project selection and resource allocation, where users allocate their DataCoin across multiple projects, with costs increasing quadratically. This system prevents wealthy users from dominating decisions and promotes wider engagement. Futarchy leverages prediction markets for certain decisions, where users stake DataCoin on the outcomes predicted to yield the best results based on agreed-upon metrics. The most promising outcome is then automatically implemented, aligning governance with long-term, measurable benefits. Together, these models create a more dynamic, inclusive, and results-oriented governance structure.

Global Consensus & Stakeholder Impact

Maya's consensus and liquid democratic mechanism may be utilized by sovereign nations to gauge consensus on policy decisions. Maya will establish sovereign charters for citizens based on specific demographics. Policy decisions can be put to a referendum on the specific charter allowing for Policymakers to gain a deeper understanding of the population's thoughts and make better decisions by the people. A tool to be used to allow governments to be accountable to their people. Clear divisions between policy decisions and charter consensus.

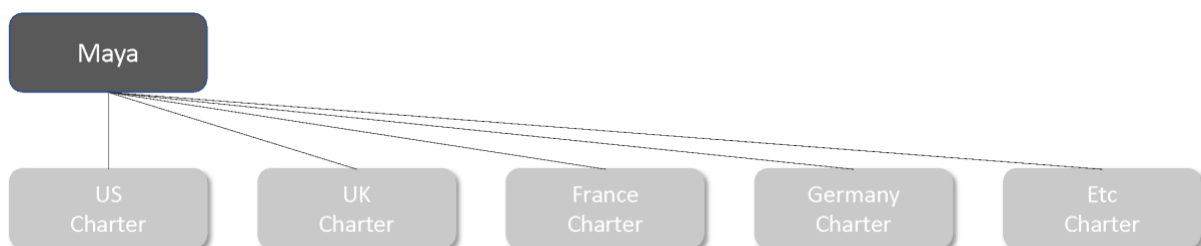


Figure 1: Global charters

Consensus can be developed across relevant stakeholders. In matters that affect different demographics, World governments can evaluate the impact on other in-direct parties. With the global span of Maya, foreign policy impacts can be seen by the World's population. Providing insights, into how country-specific foreign policy will impact other Countries directly, or indirectly.

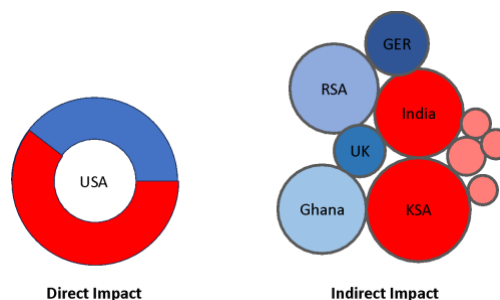


Figure 2: Assessing impact

Bills that are being discussed or proposed within the Governing Country will be posted within Maya and the relevant charter will be able to play their consensus whilst also reviewing debate from citizen contributors. Votes placed by other charters will be considered as in-direct stakeholders and their results displayed to provide a proposal score and sentiment indicator derived from AI-analysed content.

Network States

Network States was a terminology developed by ex-CTO of Coinbase, Balaji Srinivasan, as a term to refer to a growing movement of digital sovereignties as a progression of online community development.

Support for Nation States and Nationalism is slowly reaching its demise. Newer generations have less and less loyalty to their Nation States and more to online communities that share a similar ideology. To-date there are over, 300 Network State experiments, bringing together individuals from all over the World. These experiments whilst, preliminary, have gained significant traction with spin-offs of Vitalik Buterin's Zuzalu being formed.

As Network States, become more prominent, Maya gives a voice to these Network States on the global governance layer. Facilitating dialogue, feedback and trade between Nation and Network States.

Maya sees an opportunity to develop the Network State model further to form States around subject-matter forming collective hive-minds around specific topics such as Clean Energy, Health, Water, and Agriculture and welcoming the respective professional bodies to elevate to a Network State.

The Maya system provides transparent governance and treasury to allow for these Subject-Matter Network States to lead policy as opposed to corporate lobbying that obstructs construction policymaking in favor of corporate bias.

Voting

Through Maya's Liquid Democracy protocol, users can delegate their votes to those most informed on specific subjects. Polls are broken down by topic allowing users to develop a comprehensive delegation tree assigning delegates to particular topics.

Users can delegate their votes to individual users, or to various Network States. Through delegation to Network States, users can also provide funding to support Network State proposals relying on user-delegated subject matter experts to steer global policy, as opposed to corporate lobbyists. Through this function, Maya will

facilitate the formation of technocratic governance at a larger macro-level.

Aside from maintaining network security, staking Halons entitles users to vote on larger city-wide decisions. Whilst, staking of DataCoin, entitles users to vote for community-level voting. With participation in governance earns users additional DataCoin.

Liquid democracy is a form of delegative democracy and is a powerful voting model designed for collective decision-making in large communities. It combines the benefits of *direct democracy* and *representative*

democracy.

1. **Direct democracy:** In a direct democracy, every eligible individual has the opportunity to directly participate in decision-making by casting their votes on specific issues. In this scenario, voters actively engage by casting votes directly towards issues. This form of democratic governance empowers each member of the community to have a direct impact on the decisions that shape their collective future. For instance, consider a town hall meeting in a direct democracy setting where residents actively participate in voting on local policies, infrastructure projects, or budget allocations. Direct democracy offers notable advantages, such as providing control, accountability, and fairness. However, its effectiveness diminishes in larger groups due to a decline in engagement. This is often attributed to the practical constraints that individuals face, including time constraints and a lack of expertise to participate in every decision-making process (Ford 2002).

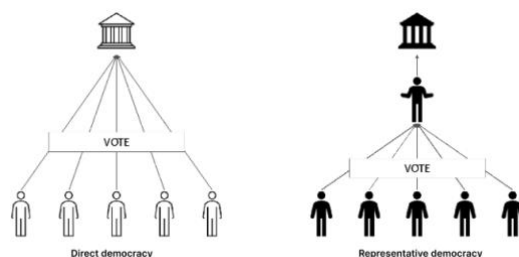


Figure 3: Direct VS. Representative Democracy

2. **Representative democracy:** Representative democracy introduces a layer of abstraction in the decision-making process. In this model, voters elect representatives, to act on their behalf in making decisions on various issues. These representatives, in turn, cast votes based on the preferences and perspectives of the constituents they represent. An example could be a national

election where citizens vote for their preferred candidates to represent them in a legislative body. The elected representatives, having gained the trust of their constituents, then contribute to the decision-making process on a broader scale. Representative democracy is considered to be more scalable for large groups. There are two key reasons for this scalability:

- a. Representatives can specialize and become experts in understanding group-related decisions, dedicating more time and effort to this task.
- b. Discussions on group decisions involve a smaller number of participants, primarily the elected representatives, ensuring a more efficient decision-making process (Miler III 1969).

However, representative democracy is not without its challenges. Issues like transparency, accountability, high barriers to entry for becoming a representative, potential abuses of power, a focus on superficial aspects of candidates, and decisions influenced by the election process itself, including election cycle effects, present significant concerns (Hirst 1990; Woolley 1991).

2.2 Liquid democracy

Also known as delegable proxy, liquid democracy allows voters to delegate their voting power to other individuals while retaining the flexibility to override delegations and vote directly. Participants can modify their delegations at any time, creating a dynamic and responsive system. Delegation is transitive, meaning a vote can pass through multiple delegation links before being counted on a particular issue (Behrens, Kistner, Nitsche, and Swierczek 2014).

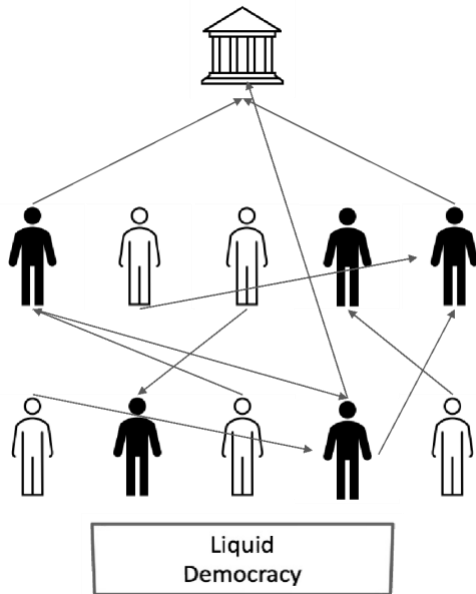


Figure 4: Liquid democracy, delegation of voting power to other voters

As shown in Figure 2, voters can delegate their voting power to other voters. Additionally, voters can override delegations and cast their votes directly on specific. This unique system allows for the control, fairness, and transparency associated with direct democracy, while also addressing the challenges posed by scalability in traditional direct democratic models.

Data Driven Income and Personal Data Economy

Maya introduces an alternative reserve asset to accelerate the productive, intelligency based economy. The Halon reserve asset is a fixed supply asset pegged to the electrical generation of renewable energy plants globally.

Users receive DataCoin, a data asset pegged to the Halon reserve, as an incentive for interacting with Maya and sharing of data and information.

Data Categories:

- Personal demographics
- Voting
- Health and fitness
- Financial information
- Social media activity
- Location data
- Professional/educational information
- Consumer Behavior
- Environmental/IoT data

Valuation Certificates:

- a) Rarity: Less common data types may be more valuable.
- b) Accuracy: Higher quality, verified data should be worth more.
- c) Recency: More recent data is typically more valuable.
- d) Completeness: More comprehensive datasets are more valuable.
- e) Relevance: Data that's in high demand for research or business purposes.
- f) Privacy sensitivity: More sensitive data might warrant higher compensation.

Scoring System:

	Points	Weightage
Rarity:	1-10	20%
Accuracy:	1-5	15%
Recency:	1-5	10%
Completeness:	1-5	15%
Relevance:	1-10	25%
Privacy Sensitivity:	1-10	15%

*Example Value Calculation: Value = (Rarity score * 0.2) + (Accuracy score * 0.15) + ... + (Privacy score * 0.15)*

- Data shared through city interactions (services used, movement patterns, etc.) is valued higher
- Real-time data from IoT devices in the physical city feeds into the digital twin, creating valuable data streams.

Energy Generation and Halon Mining

In Maya's ecosystem, Nation States and Cities have the opportunity to earn Halons by achieving and surpassing sustainable energy goals. This not only incentivizes large-scale adoption of renewable energy but also aligns economic rewards with environmental stewardship. Users can play an active role in this process by directly investing in energy projects, such as solar farms or wind turbines. Their investment not only supports the expansion of green energy infrastructure but also entitles them to a share of the Halons generated by these projects.

Moreover, the optimization of energy efficiency within the digital twin further contributes to Halon minting. Through advanced simulations and AI-driven strategies, users can identify and implement measures to reduce energy consumption and enhance the overall efficiency of virtual cities and systems. These efforts, when successfully applied, are rewarded with additional Halons, creating a direct link between digital innovation and real-world environmental impact. This comprehensive approach encourages a collaborative effort between governments, private investors, and individual users to accelerate the transition to sustainable energy, making environmental responsibility both profitable and achievable.

Virtual Residencies:

Through Maya's digital twin operating system, using DataCoin, users can buy or lease digital residencies built on the Maya framework in all cities. Cities earn Halons based on the number and activity of virtual residents. The virtual permanent residencies provide the benefits and services of that Country without physical presence. Virtual residencies offer numerous benefits to countries by enhancing economic, social, and cultural landscapes. They attract foreign talent and investment, bolstering the digital economy and fostering the growth of tech hubs and start-ups. This helps diversify the economy beyond traditional sectors and increases tax revenue through various channels. Virtual residencies also promote cultural exchange and global networking, enriching local culture and enhancing international relations. To support

these residents, countries often improve digital infrastructure and public services, benefiting all citizens. Furthermore, these programs provide a flexible alternative to traditional migration policies, positioning countries as forward-thinking and innovative. They align with global remote work trends, enhance international reputation, and contribute to economic resilience by creating a more varied economic base. Overall, virtual residencies offer a win-win situation, providing economic, cultural, and social advantages to countries and flexibility and opportunities to individuals and businesses.

Access Virtual Government Services:

Maya's digital twin integrates various public services, such as healthcare, transportation, and utilities, allowing residents to seamlessly access information and complete transactions through a single platform. Maya implements smart contracts to reduce bureaucracy within the system. This integration enhances efficiency, reduces wait times, and improves user experience. Moreover, Maya can simulate scenarios and predict outcomes, enabling proactive government responses to issues like traffic congestion or public health crises. They also offer a more transparent and accountable governance model by providing citizens with direct access to public data and decision-making processes.

Users can access and pay for government services using DataCoin.

Overall, Maya revolutionises how government services are delivered, making them more accessible, responsive, and user-centric.

Education and Skill Development

Traditional education systems often impose defined exits, creating constraints on knowledge development by tightly associating learning with formal institutions. In contrast, Maya's Education and Skill Development system promotes continuous education and growth. Through Micro-credentials, users earn skill-specific tokens by completing courses or demonstrating competencies, which can be exchanged for DataCoin or used to access higher-level services. The Knowledge Marketplace further enhances this by enabling users to offer courses or mentorship, with payments in DataCoin. An AI-driven platform matches learners with the most suitable resources based on their goals and learning styles, ensuring personalized and ongoing educational development beyond the confines of traditional institutions.

Crisis and Resilience Management

Maya's Digital Twin can be used for simulation of scenarios, enabling users to engage in complex simulations of potential crises, such as natural disasters or pandemics, allowing them to earn DataCoin by developing and implementing effective strategies. In tandem, Rapid Response Protocols utilize smart contracts to automatically reallocate resources during real-world crises, rewarding users with bonus DataCoin for their contributions to the crisis response, even if done virtually. Moreover, cities can enhance their Resilience Scoring by demonstrating strong performance in both simulations and actual events, earning them Halons. This system incentivizes proactive planning and community preparedness, promoting a more resilient society.

AI Integration

Maya's AI Integration fosters dynamic interaction and optimization across various city functions. Through Predictive Modeling, AI anticipates city needs, such as traffic flow or energy consumption, allowing users and organizations to stake DataCoin on these predictions and earn rewards if accurate. Personalized Services are enhanced by AI assistants that guide users through the digital twin, offering tailored support based on the amount of data shared, with incentives provided in DataCoin. Additionally, Autonomous Agents operate within the digital twin to perform tasks like scheduling maintenance and optimizing resource allocation. These AI agents can earn and spend DataCoin based on their performance, creating a self-sustaining, efficient system. Maya's AI Integration, unlike traditional static systems, promotes continuous learning and adaptation, optimizing city management and personalizing user experiences.

Real World Impact Tracking

Maya's Real-World Impact Tracking ensures that digital efforts translate into tangible benefits. Through Outcome-Based Tokenomics, projects within the digital twin that lead to measurable improvements in the real world generate additional Enhanced Resilience (ER), forging a direct link between virtual actions and physical outcomes. Impact Certificates, issued as non-fungible tokens (NFTs), recognize significant positive contributions, offering both reputational and financial value within the ecosystem. This system not only rewards impactful initiatives but also encourages a continuous cycle of improvement, bridging the gap between digital innovation and real-world progress.

Private Data Sharing Framework

Maya's Privacy-Preserving Data Sharing framework ensures that user privacy is protected while still enabling valuable data-driven insights. Zero-Knowledge Proofs allow users to verify that they meet specific criteria, such as income level, without disclosing precise details, ensuring confidentiality. Homomorphic Encryption permits computations on encrypted data, allowing for robust data analysis without exposing individual user information. Differential Privacy adds calculated noise to datasets to prevent the identification of individuals, balancing the utility of the data with the protection of user privacy. This approach fosters trust and security, empowering users to share data while maintaining control over their personal information.

Cross-City Trade and Investments

Cross trade, investments and cooperation agreements between Cities and Nation States are facilitated and secured through smart contracts using both Halons and DataCoin.

In the Maya ecosystem, users are empowered to actively contribute to urban development by proposing city improvement projects within the digital twin. These proposals are not just theoretical exercises; they require users to stake Halons, ensuring that only serious and well-considered ideas are put forward, effectively preventing spam and low-quality submissions. Once a project is proposed, other users can evaluate its potential and choose to invest in it

using DataCoin. This collaborative investment model not only fosters community-driven innovation but also aligns financial incentives with the collective goal of city enhancement.

Successful projects yield returns in DataCoin for the investors, creating a profitable opportunity for those who contribute to meaningful urban improvements. Additionally, a portion of the returns is automatically converted into Halon, benefiting the city as a whole by enhancing its resilience and overall quality of life. This system creates a virtuous cycle where user-driven initiatives lead to tangible improvements in the digital twin, with financial and reputational rewards distributed to both individual participants and the wider community.

SuperWallet:

Maya's SuperWallet represents a revolutionary advancement in self-custody wallets, acting as a digital twin of your physical and online self. The superwallet is forged from your interactions with the environment, capturing engagements with government services, retail spending habits, and online activities to construct a comprehensive digital persona. This digital twin not only stores and transacts but also dynamically manages your entire financial life, thanks to integrated AI agents. These AI agents are empowered to handle complex financial tasks, leveraging blockchain technology to execute on-chain actions such as collecting staking rewards, optimizing portfolios, and developing trading strategies to enhance wealth growth. By managing computational logic off-chain, these AI agents operate efficiently, reducing computing requirements and associated costs. They utilize zkML (zero-knowledge machine learning) protocols to securely verify and validate processes, ensuring transparency and privacy. This combination of advanced AI and blockchain technology makes Maya's SuperWallet a powerful tool for holistic financial management, seamlessly integrating various aspects of a user's digital and financial life into a single, intelligent platform. AI agents integrated into wallets, such as those in Maya's SuperWallet, offer immense value by providing intelligent, automated financial management that is tailored to individual needs. Here are several ways these AI agents enhance the value of digital wallets:

1. Automated Financial Optimization

AI agents can continuously monitor and analyze financial data, including spending patterns, investment performance, and market trends. They can automatically optimize portfolios by reallocating assets, rebalancing investments, or executing trades at optimal times. This helps users maximize returns and minimize risks without requiring constant manual intervention.

2. Personalized Financial Insights and Recommendations

AI agents can provide personalized financial advice based on an individual's financial goals, risk tolerance, and

spending behavior. They can suggest budgeting plans, savings strategies, or investment opportunities tailored to the user's unique profile. This personalized guidance helps users make informed financial decisions, enhancing their overall financial well-being.

3. Automated Transactions and Compliance

These agents can automate routine transactions, such as bill payments, subscriptions, and transfers, ensuring timely payments and efficient cash flow management. They can also manage compliance-related tasks, such as tax calculations and reporting, ensuring users

adhere to regulatory requirements seamlessly.

4. Efficient Management of Digital Assets

In the realm of cryptocurrencies and digital assets, AI agents can manage complex activities like staking, yield farming, and liquidity provision. They can monitor various protocols and platforms, automatically shifting assets to the most profitable opportunities, thus maximizing passive income generation.

5. Fraud Detection and Security Enhancement

AI agents can analyze transaction patterns to detect unusual or potentially fraudulent activities. They can alert users to suspicious transactions or automatically take preventive actions, such as freezing accounts or requiring additional verification. This proactive approach significantly enhances the security of digital assets.

6. Streamlined Access to Services

By integrating with various financial services, AI agents can streamline access to loans, insurance, and other financial products. They can pre-fill applications, negotiate better rates, and even simulate different scenarios to help users choose the best options, making financial services more accessible and convenient.

7. Behavioural Insights and Feedback

AI agents can provide insights into spending and saving habits, highlighting areas where users can improve. For example, they can identify discretionary spending that could be redirected towards savings or investments, helping users develop better financial habits over time.

8. Seamless Cross-Border Transactions

For users engaged in international transactions, AI agents can optimize currency conversions and transfer routes, minimizing fees and delays. They can also assist in navigating complex regulations and compliance requirements in different jurisdictions.

9. Integration with Smart Contracts and DeFi Protocols

AI agents can interact with smart contracts and decentralized finance (DeFi) protocols to automate complex financial operations. This includes participating in decentralized lending, borrowing, and liquidity provision, as well as managing tokenized assets and digital collectibles.

10. Continuous Learning and Adaptation

AI agents continuously learn from user interactions and market developments, becoming more accurate and efficient over time. This adaptive learning capability ensures that the financial strategies and recommendations provided by the AI agents remain relevant and aligned with the user's evolving financial situation and goals.

Other Core Aspects of Maya:

1. Direct Citizen Investment (DCI):

The economy, fundamentally characterized as the circulation of goods and services heavily relies on a government's adeptness in strategically channeling collected tax revenues to invigorate key sectors. Unfortunately, bureaucracy and large governance often lead to misallocated or unoptimized capital allocation. Addressing this challenge, Maya introduces the concept of Direct Citizen Investment (DCI), a groundbreaking approach that sidesteps inefficiencies by directly investing in the infrastructure identified as most valuable by the population. Maya allows not only the government but also citizens to propose initiatives. The Maya voting system then gauges the demand for each proposal, offering a tangible indication of its perceived value for potential investment. By incorporating DCI, Maya pioneers a streamlined governance model that empowers governments to regulate and assess sovereign needs in accordance with population consensus. Immigrants and Disapora can utilize the platform and support in the development of their country reducing future brain-drain and providing an opportunity for them to repatriate. This innovative framework not only fosters economic efficiency but also instills a sense of direct citizen engagement in shaping the developmental landscape.

2. Political Donations:

Political candidates harness the Maya economy to solicit political contributions for financing their campaigns and legislative initiatives. The inherent transparency and security of Maya's blockchain technology safeguard against any potential malpractice, thereby promoting a fair

and democratic electoral process.

3. Hive minds:

Hive-minds build on the concept of deliberative polling by organising small group discussions between delegates who are competing experts to create more informed and reflective public opinion. Existing social platforms often exhibit unhealthy engagement with politics, perpetuating the tribalism prevalent in our societies. Maya's innovative social aspect aims to foster an environment devoid of tribalistic tendencies or the necessity to choose sides. Instead, Maya emphasizes the selection of solutions through Hive-Mind Think Tanks, which consist of delegated thought leaders pertinent to the topic at hand. These Hive-Minds serve as public spaces where citizens can engage much like tuning into a podcast, gaining valuable insights, and becoming more informed about specific subject matters. By steering clear of divisive tribalism and prioritizing solution-oriented discussions, Maya's social platform strives to redefine the way we interact with political-discourse.

4. Bills & proposals:

No more bureaucratic walls and distant decision-making. Drawing inspiration from the participatory constitutions of Chile's 'Popular Initiative. Maya puts the reins of governance directly in citizens' hands. Propose policies, secure funding, and even introduce your own laws all on this dynamic platform. Maya amplifies your voice through open discussions, community funding, and a smart voting system that prioritizes proposals by public demand. Making citizens the architects of tomorrow.

5. No Split Vote:

Maya Governance operates a No-Split Vote policy for all proposals. The

application of a split-voted decision represents poor governance. Maya's Governance Structure is set up to service and support its citizens where other governments have failed. For proposals to be accepted, an overwhelming majority of 80% is required to pass a proposal.

6. Judiciary Services:

The independence and impartiality of the judiciary are fundamental

- Increased Public Engagement and Education

Direct Participation: Maya allows for citizens to directly participate in the selection or confirmation of judges. This might enhance public engagement and awareness of the judiciary, fostering a more informed citizenry.

- Diversity and Representation

Delegate Selection: Citizens could delegate their voting power to representatives who are knowledgeable about legal matters or have expertise in judicial proceedings. This may help ensure a diverse and well-informed group of representatives involved in the decision-making process.

- Transparent and Accountable Decision-Making

Transparency: Maya's Liquid democracy protocol provides transparency in decision-making. This transparency extends to judicial proceedings, allowing citizens to understand the factors considered in legal decisions, which enhance trust

principles, and any introduction of democratic elements must carefully consider the potential impact on the rule of law. Balancing public participation with the need for expertise, impartiality, and protection of individual rights is a complex task that requires a thorough understanding of the legal and constitutional framework.

in the judicial system.

- Checks and Balances

Public Oversight: The Maya protocol provides a mechanism for public oversight of the judiciary. While maintaining the independence of the judiciary is crucial, allowing citizens to have some influence or oversight serves as an accountability layer on the system.

- Policy Feedback Loop

Responsive Judiciary: Maya allows for a more responsive judiciary, as feedback from citizens could be quickly incorporated into the decision-making process. This responsiveness is particularly relevant in areas where societal norms and values are evolving quickly in the digital age.

- Decentralized Decision-Making

Decentralization: Liquid democracy could contribute to decentralizing decision-making in the judiciary, involving a broader range of perspectives that are otherwise hindered by the use of the sample jury in today's legal proceedings.

Revenue Model

Maya establishes joint venture (JV) structures through public-private partnerships with each sovereign partner, wherein these JVs operate as InvestCo entities dedicated to fostering further development. With every sovereign partner onboarding Maya, a distinct vehicle is created to facilitate collaboration.

Revenue generation within the Maya ecosystem is orchestrated through facilitation and transactions, encompassing:

- **Facilitation Fee:** Maya levies a facilitation fee amounting to 1% of funds directed toward proposals, projects, and political donations. This fee is systematically divided among three entities: the Maya Foundation, the respective sovereign partner.
- **Transaction Fees:** Maya earns fees from transactions conducted using the Maya currency. These transaction fees are shared and distributed among all citizens, fostering a collective benefit from the platform's financial activities.
- **Advertising Revenue:** Advertising revenue is generated from in-comment advertisements, and between video content.
- **Boosting Proposals:** Boosting bills, those that would like to get more traffic to their proposal, can opt to pay an additional fee to bring their posts to the top of feeds.
- **Pro Memberships:** Monthly membership for an ad-free experience, complete with discount on boosting posts and bill proposals.

Halon Reserve Asset and Data Driven Income

Halon is global reserve asset backed by a diverse portfolio of renewable energy assets designed as a productive asset to complement the Standard Drawing Rights of the International Monetary Fund. Halon serves as a reserve asset for the distribution of Data-Driven Income, a new approach to Universal Basic Income.

Introduction: Current cryptocurrencies are essentially fiat-backed. Fiat is a consuming currency meaning that it does little to generate any productivity within the economy. This is truer today than any other. As the general population gets larger, and voices are less heard, the traditional government has resolved to only expand governance. As a result, a significant proportion of the population sits within public sector, acting as a heat sink for collected tax revenues and a lack of stimulation for the economy. As the strength of an economy is in the efficiency of its government to allocated collected tax revenues to stimulating areas of the economy, we are seeing weakening economies in the mature Western Countries.

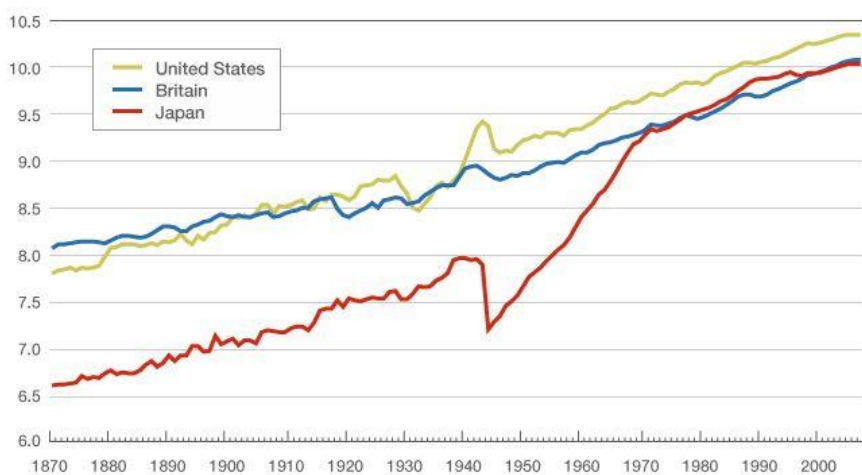
The reliance on fiat currencies, which are not directly tied to real assets like gold, has sparked debate about their long-term viability and potential impact on economic productivity. Some argue that the growth of the public sector in mature Western economies, perceived as inefficient in allocating tax dollars, further hinders economic stimulation. In this context, the creation of Special Drawing Rights (SDRs) by the International Monetary Fund in 1969, initially pegged to the value of gold, has been the inspiration for the development of Halon's currency, and a

currency for fostering economic development in countries, especially emerging markets where GDP suffers as a result of lack of US Dollar liquidity and local capabilities.

The Halon currency derives inspiration from Post-World War II Japanese Fiscal Policy, Chinese Fiscal Policy and the IMF's Special Drawing Rights (SDR), an International Reserve Asset.

Here's why Japanese Fiscal Policy is relevant: Post the US occupational period after World War II between 1945-1952, Joseph Dodge, an American economist incorporated the 'Dodge Line', designed to lay down the foundations for growth by stabilizing the Japanese economy by controlling inflation, reducing government expenditures, and increasing taxes. After this foundation was laid, the Liberal Democrat Party formed the Fiscal and Economic Planning Council in 1956 with the mandate to formulate long-term economic plans, setting targets for economic growth and coordinating fiscal policies to achieve those objectives. With an active industrial policy, focused on steel, chemicals and electronics. This required fiscal policies were directed towards infrastructure development, education, research and development. This 'printing' for *production* as opposed to *consumption*, led to Japan's rapid economic expansion.

Growth in Real Per Capita GDP in Japan, Britain, and the US, 1870–2008
(Natural log of per capita GDP in 1990 international Geary-Khamis dollars)



Source: The Maddison-Project
(<http://www.ggdc.net/maddison/maddison-project/home.htm>, 2013 version).

nippon.com

Figure 5: Growth in Real per Capita GDP, Japan, Britain and USA

Here's why Chinese Fiscal Policy is relevant: The Chinese economic model relies on two distinct currencies—CNY and CNH—issued and utilized in mainland China and Hong Kong, respectively. The limited exchange between the two ensures China can implement Quantitative Easing on its mainland currency, a strategic move instrumental in China's remarkable growth and a resolution to the Trilemma issue posed by economists. The Trilemma, encapsulating the challenges of fixed foreign exchange rates, free capital movement, and independent monetary policy, underscores the inherent difficulty in achieving all three simultaneously.

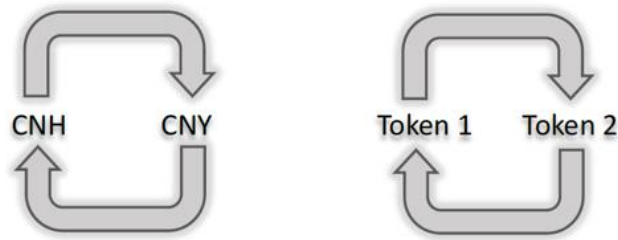


Figure 6: The Two-Currency System

Here's why SDRs are relevant: Originally conceived when currencies were tied to gold, they aimed to provide a more stable international reserve asset than individual national currencies. With the shift to floating exchange rates in 1973, SDRs were redefined as a basket of world currencies. While not a currency itself, SDRs act as an asset held by IMF members and authorized institutions like central banks and development banks, facilitating transactions and potentially serving as a more stable alternative to traditional reserve currencies. Since the foundation of floated fiat currencies is debt-based and fiscal policy is consumption-focused, each of these currencies is a load on the economy leading to falling productivity unless allocated into stimulating areas.

Flat Currencies: Unlike traditional stablecoins, which are pegged to a specific fiat currency and lose their value as inflation rises, flatcoins are designed to maintain their purchasing power against a basket of goods used to measure inflation. Our largest cap stablecoins today are all backed by US government paper. Therefore, essentially another vehicle for holding US government debt.

Proof of Productivity: The Halon Reserve Asset currency backed by a basket of Utility-scale renewable energy assets. Unlike fiat currencies and fiat-backed cryptocurrencies of today, Halon's currency is **Productive**.

Halon's Reserve is backed by the following Renewable Energy infrastructure assets globally:

- Solar Power
- Wind Power
- Hydro Power
- Geothermal

The reserve basket will target projects at various unleveraged IRRs from 7% to 15%, incorporating project finance to increase these upwards of 15-20% leveraged IRR. All utility-scale infrastructure is based on long-duration Power Purchase Agreements (PPA) from 20-25 years. Halon's Reserve basket will target an average of leveraged 15% IRR. All projects would be of investment grade BBB and above, and countries adopting Halon's Reserve would be able to raise development bonds at credit ratings that they would not be able to achieve under current conditions.

Redefining Gross Domestic Product (GDP):

In most emerging markets, GDP is very low, and Debt-to-GDP is extremely high. This is due to a lack of local capability to produce leading to low USD liquidity. This combination of factors leads to the ponzi structure of debt financing provided to emerging markets by the International Monetary Fund to underpin EMDE currencies. Through the adoption of Halon, sovereigns can leverage the productivity of other nations.

Why Energy Assets?: As markets mature, one thing is certain, electrical load increases. Our energy use is directly tied to the productivity of the population. The strength of the economy is evaluated based on GDP, without our financial system having anything to do with productivity. Halon Flat is a Reserve Asset directly tied to the growth of Human Civilization.

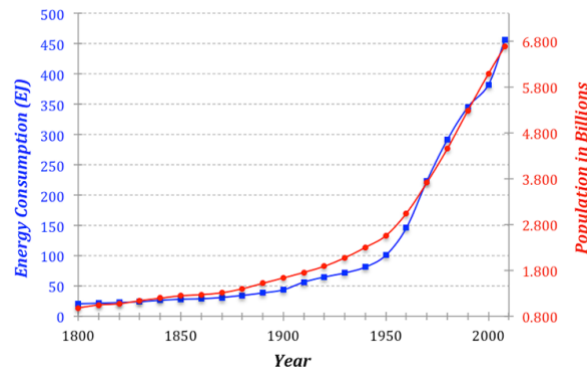


Figure 7: Energy Consumption and Population

Energy Generation is directly correlated to Productivity, which in turn is correlated to GDP.

Productivity is a function of Energy

The Physics:

- **First Law of Thermodynamics (Conservation of Energy):** This law states that energy cannot be created or destroyed, only transformed from one form to another. In the context of production, it implies that the energy input into a system (e.g., a factory) must equal the energy output plus the energy consumed within the system.

$$\Delta U = Q - W$$

Where ΔU is the change in internal energy of the system, Q is the heat added to the system, and W is the work done by the system.

- **Second Law of Thermodynamics (Entropy):** This law states that the entropy of an isolated system always increases over time. In practical terms, it means that energy transformations are never 100% efficient, and some energy is always lost as waste heat.

The Economics:

In economics, production functions often relate inputs (including energy) to outputs (goods and services). A common form of the production function is the Cobb-Douglas production function:

$$Y = A \cdot K^{\alpha} \cdot L^{\beta} \cdot E^{\gamma}$$

Where:

- Y is the total production (output).
- A is total factor productivity.

- K is capital.
- L is labor.
- E is energy.
- α, β, γ are the output elasticities of capital, labor, and energy, respectively.

This function shows how changes in energy input (E) affect total production (Y).

The Economics:

Energy intensity measures the amount of energy required to produce a unit of economic output. It is often used to illustrate the relationship between energy consumption and economic production.

$$\text{Energy Intensity} = \frac{\text{Total Energy Consumption (TEC)}}{\text{Gross Domestic Product (GDP)}}$$

This ratio provides insight into how efficiently an economy uses energy to produce goods and services.

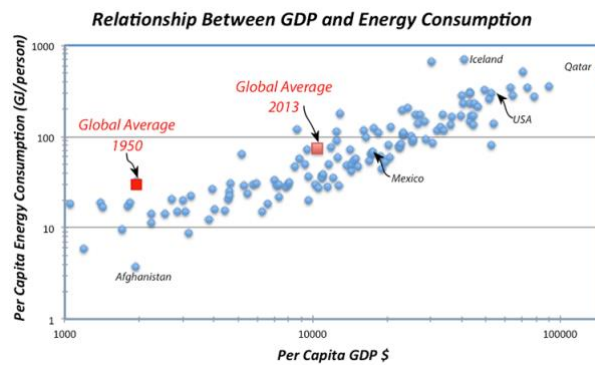


Figure 8: The per capita energy as a function of the per capita GDP

Why not Bitcoin or Ethereum?: Bitcoin and Ethereum are understood as example of productive currencies, with a yield that is generated and with smart-contracts, an economy that sits behind it. The yield generated is purely based off transactions, and this is where the problem occurs. If we have an economy based off transactions, it is therefore consumer-driven, and consumption-based. It is just another derivative of a system that already exists. By tethering our financial system to the energy generated, we are directly tethering it to the growth and maturity of human civilization. Bitcoin does form part of the solution. Bitcoin could be looked at as a store of energy that can be transferred, but not easily converted back to energy. Bitcoin with it's programmed stock-to-flow, can be utilized as a means to store value within a liquid asset class.

The Evolution of Civilization: A few hypotheses have been formed on the level and classification of civilization's advancement. Made famous by Nikolai Kardashev's hypothetic theory of the Kardashev Scale, He proposed a classification of civilizations into three types, based on the axiom of exponential growth:

- A Type I civilization can access all the energy available on its planet and store it for consumption.
- A Type II civilization can directly consume a star's energy, most likely by a Dyson sphere.

- A Type III civilization can capture all the energy emitted by its galaxy, and every object within it, such as every star and black hole.

Whilst, Kardashev's work laid the foundation, a few other models have been proposed by the likes of Carl Sagan and Dr. Michio Kako that allow for us to assess our advancement between the types and beyond the initial Kardashev Scale. If we are to move beyond our current structure, a new form of financial system is required that restructures the way that humanity operates and moves towards a more production-focused economy. In a transactional consumption-based economy, capitalistic exploits will always exist, even with in the most socialist of frameworks. Within a production-based economy, the concept of socialism and capitalism are not a function.

Tokenomics:

Halon - The Reserve Asset

Halon is a pivotal component of the ecosystem, with a fixed maximum supply set at 100,000,000 Halon. It is mined through energy generation, linking its availability directly to sustainable energy production. Halon serves as the foundational backing for DataCoin (DC), providing stability and value to the data token. The fixed supply of Halon helps maintain its value and supports the long-term viability of the ecosystem by anchoring the value of DC.

DataCoin - The Data Token

DataCoin functions as the primary data token within the ecosystem, with an elastic supply that is pegged to the value of Halon. The initial exchange rate is set at 1 Halon = 100 DataCoin, establishing a baseline for the token's value. DataCoin is primarily used to reward users for sharing valuable data, creating a direct incentive for participation in the data-sharing economy. The supply of DataCoin adjusts according to the amount of data shared, aligning the token's value with its utility in the ecosystem.

Mining Halon

Halon is minted based on milestones achieved in energy generation, with the mining rate designed to decrease over time to ensure its scarcity. For example, in the first year, 10% of the total supply is mined, with the rate halving every two years. This

gradual reduction in the mining rate helps preserve the value of Halon and maintains its role as a scarce and valuable asset within the ecosystem.

DataCoin Issuance

New DataCoin is minted as users share valuable data, leading to an increase in the DataCoin supply as the amount of shared and valued data grows. This issuance mechanism aligns the creation of DC with its utility, encouraging continuous data sharing and rewarding contributors in proportion to the value they provide.

Peg Mechanism

A smart contract maintains the peg between Halon and DataCoin, ensuring that the value of DC remains stable relative to Halon. When DC is minted for data sharing, an equivalent value in Halon is locked in a reserve, preserving the value and integrity of the peg. This mechanism helps maintain a stable exchange rate between the two tokens and supports the overall stability of the ecosystem.

Stability and Adjustments

The system employs various mechanisms to maintain stability in the value of DataCoin. If the value of DataCoin drops below the peg, the system may burn DC or release less of it for data sharing to correct the imbalance. Conversely, if DataCoin value rises above the peg, the system can mint more DataCoin or increase rewards to restore equilibrium. These adjustments

ensure that the value of DataCoin remains aligned with its peg to Halon.

Governance

Holders of Halon have governance rights within the ecosystem, enabling them to vote

on system parameters and proposed upgrades. This governance structure ensures that stakeholders who contribute to the stability and success of the ecosystem have a say in its future development and management.

Tokenomics Breakdown

The distribution of Halon is allocated as follows: 70% is mined through energy generation, 15% is reserved for the development team with a vesting period over 5 years, 10% is allocated for community incentives and ecosystem growth, and 5% is set aside for initial liquidity provision. For DataCoin, 80% is designated for rewards related to data sharing, 15% for ecosystem development, and 5% for operational costs.

Revenue Model

The ecosystem generates revenue through transaction fees on DataCoin transfers (0.1%), data marketplace fees (2% on data purchases using DataCoin), and profits from energy generation, which are separate from the token system. These revenue streams support the sustainability and growth of the ecosystem while providing value to participants.

Token Utility

Halon offers governance rights and can be staked to enhance network security. DataCoin is utilized for rewarding data sharing, purchasing data, and covering service fees within the ecosystem. The dual utility of both tokens supports a robust and dynamic economic model.

Staking and Rewards

Users can stake Halon to earn a portion of transaction fees, with staking also granting voting rights for governance decisions. This incentivizes participation in the network's security and decision-making processes while providing financial rewards.

Burning Mechanism

To increase the scarcity of both Halon and DataCoin, 50% of transaction fees are burned. This mechanism helps maintain the value of the tokens by reducing their supply and enhancing their long-term value.

Price Stability

Algorithmic adjustments are made to data reward rates based on the DataCoinC/Halon ratio to maintain price stability. A minimum reserve ratio of 75% ensures that Halon backing for DataCoin is preserved, supporting a stable and reliable economic model.

Liquidity Provisions

Initial liquidity pools are established on decentralized exchanges to facilitate trading of Halon and DataCoin pairs. Ongoing liquidity incentives are also provided to ensure adequate market depth and stability for both tokens.

Vesting and Lock-ups

Tokens allocated to the team and advisors are subject to a 1-year lock-up period, followed by a 4-year vesting schedule. Mined Halon also has a 6-month lock-up period to prevent immediate selling, which helps stabilize the market and aligns long-term interests with the ecosystem's growth.

Economic Caps

Economic caps are enforced to manage the minting of DataCoin and maintain system stability. A maximum daily minting rate (e.g., 0.1% of circulating supply) and a minimum reserve ratio, enforced by smart contracts, ensure that the system remains balanced and resilient to fluctuations.

A Final Word

Maya's potential impact transcends national boundaries, providing a platform for global coordination. By facilitating public engagement with governance, encouraging diverse representation, and establishing a responsive policy feedback loop, Maya introduces a new era of decentralized decision-making and sovereign development.

In essence, Maya has elevated its position as a governance layer; as it acts as a catalyst for

change, fostering an inclusive, accountable, and transparent approach to governance. This paper has sought to shed light on Maya's potential to redefine the democratic landscape, inviting stakeholders to join this transformative journey. As we navigate the complexities of the 21st century, Maya stands as a beacon, illuminating the path toward a more responsive, equitable, and participatory form of governance

Maya is not Disruptive Technology, it is Disruptive Governance. How do YOU value that?

The Founder



Aaron Astley- CEO

Aaron Astley is an accomplished CEO specializing in infrastructure development, economic development, and sustainable finance practices. He is the Managing Director of Nurture Investments Holding, Co-CEO of Zayed Energy and Water and CEO of I-kWh. Aaron has served as an infrastructure and economy advisor to several developing nations providing Sovereign development support and policy structuring. He is the author and creator of the Sovereign Development Programme, an innovative approach to promoting economic development in developing countries. His commitment to promoting sustainable finance practices in Africa has been recognized globally, and he has played a significant role in advancing the adoption of sustainable finance principles in the region,

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