

"Decentralized Digital Micro Future"

- A Blockchain Micro-Governance Model with Satellite Broadband Connectivity powered by Renewable Energy



Edwin Liava'a

RED - Retired, Extremely Dexterous
<https://github.com/EdwinLiavaa>

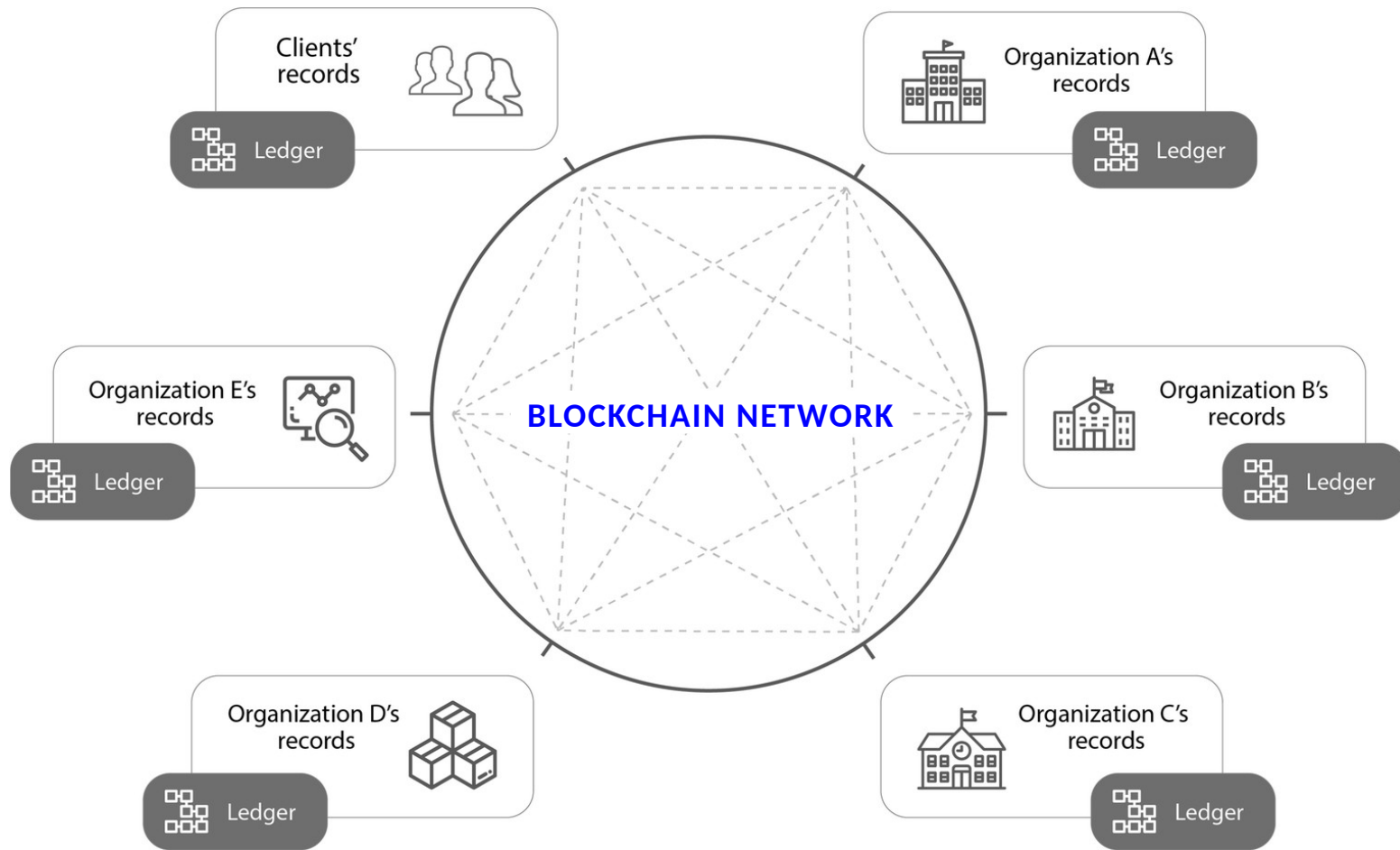


What is Blockchain?

DEFINITION

A blockchain is a highly secure and reliable network that records data in a distributed ledger that is not controlled by a central authority.

Source: <https://chain.link/education-hub/blockchain>



Source: <https://link.springer.com/article/10.1007/s11036-020-01649-6/figures/1>

Why Blockchain?

In all our agreements today, we have this issue of trust and promises.

Services, like
an oil change



Lottery



Bank



All these have trust assumptions

Source: <https://patrickalphac.medium.com/why-we-web3-bd21a5570019>

What is the purpose of Blockchain?

“Unbreakable Promises”

- Blockchain technology allows us to create agreements and promises that are effectively unbreakable, similar to the childhood ritual of the pinky swear.
- Just as the pinky swear signified an unbreakable vow between friends, blockchain provides the tools to make trusted, permanent agreements.
- Blockchain gives us the capability to establish commitments that do not require absolute trust between parties.
- In a sense, we now have the technology to make pinky swears - symbolic unbreakable promises - actually binding and permanent.
- Blockchain enables “**trust-minimized agreements**” that were not feasible before.



Source: https://en.wikipedia.org/wiki/Pinky_swear

What is the purpose of Blockchain?

“Trust. Minimized. Agreements”

- **Nick Szabo:** The man, the myth the legend.
- His paper on Bit Gold and his conception of smart contracts. Bit Gold is seen as the precursor to bitcoin, which **Satoshi Nakamoto (pseudonym)** would go on to refine in **his/her/they** bitcoin whitepaper.
- **Smart contracts**, Szabo first wrote about back in 1996, enable the execution of cryptocurrency transactions and underpin the viability of the entire field.
- His philosophy as a whole – is the concept of ‘**trust-minimisation.**’ This posits the theory that, as a species which is optimised to best function in groups of no more than 150 individuals, we need to develop ways in which the need to trust strangers is kept to a minimum.
- Quite simply, there wouldn’t be crypto without Nick Szabo’s work.



Source: <https://www.coinbureau.com/analysis/who-is-nick-szabo/>

What is the purpose of Blockchain?

"Bitcoin"

- **Satoshi Nakamoto:** The pseudonym, the enigmatic figure.
- In 2008, bestowed upon the world a gift that would go on to redefine the very fabric of human organization.
- Bitcoin, a selfless offering that would empower humanity to break free from the chains of centralized control.
- At the heart of Nakamoto's gift lies a deceptively simple yet profoundly transformative mechanism: **Proof-of-work** "**Lea Pe Ngaue**" – **Consensus Protocol**.
- Far from being just a means to mint new coins, proof-of-work is a universal emancipation engine. It allows any individual, regardless of status, wealth, or geographical location, to prove their stake in shaping collective realities through the objective, incorruptible expenditure of computational effort.

This is not about enriching a select few. Nakamoto, whose identity remains unknown, could have kept their creation private, amassing untold wealth. Instead, they chose to freely release Bitcoin's code, disappearing without ever converting their early-mined coins. This selfless act speaks volumes: Bitcoin was never intended as another tool for financial exploitation but as an open-source blueprint for humanity's liberation from entrenched power structures.



Source: <https://hackernoon.com/bitcoin-proof-of-work-as-humanitys-emancipation-engine>

What is the purpose of Blockchain?

- **“Cryptographic Truth”**

- **Sergey Nazarov:** co-founder of Chainlink, a leading decentralized oracle network.
- His thesis: Cryptographic truth will reshape societal agreements.
- Blockchain technology creates a tamper-proof ledger.
- Cryptographic truth can revolutionize trust and enforcement of agreements.
- Benefits: Increased security, efficiency, transparency and accessibility.
- Applicable to various domains: finance, supply chains, voting systems, legal contracts.
- The 4 pillars of good governance.
- Sergey Nazarov and former Google CEO Eric Schmidt discussing the future of Web3.



Source: <https://blog.chain.link/smartcon-2022-recap/>

What is a Smart Contract?

DEFINITION

A smart contract is a tamper-proof program that runs on a **blockchain network** when certain predefined conditions are satisfied.

- A smart contract is an agreement that is deployed to a decentralized blockchain, and unlike traditional agreements, once a smart contract is deployed, it:
 - Cannot be altered (is immutable)
 - Automatically executes
 - Everyone can see the terms of agreement



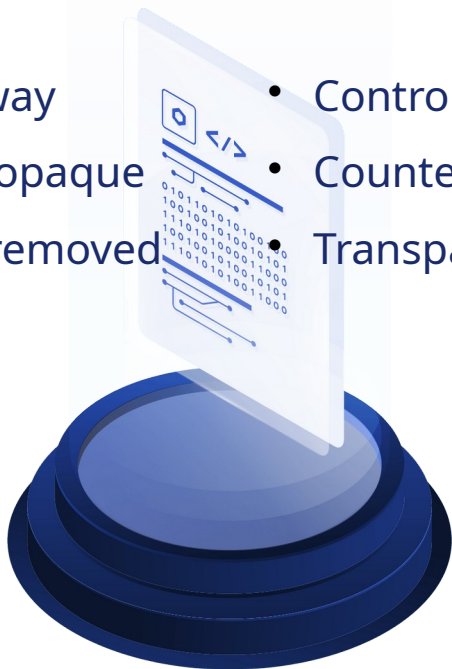
Cryptographic Truth is Strictly Better than “Just Trust Us”

“Just Trust Us” Paper Promises

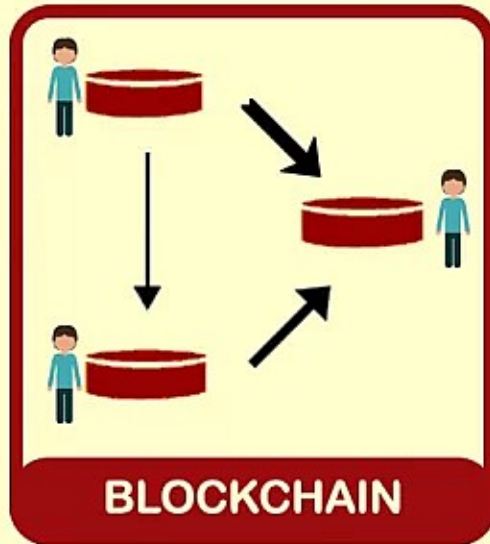
- Control is completely given away
- Counterparty risk is high and opaque
- Transparency is purposefully removed

Cryptographic Truth Guarantees

- Control is in the user's hands
- Counterparty risk is low and transparent
- Transparency is unavoidably built-in

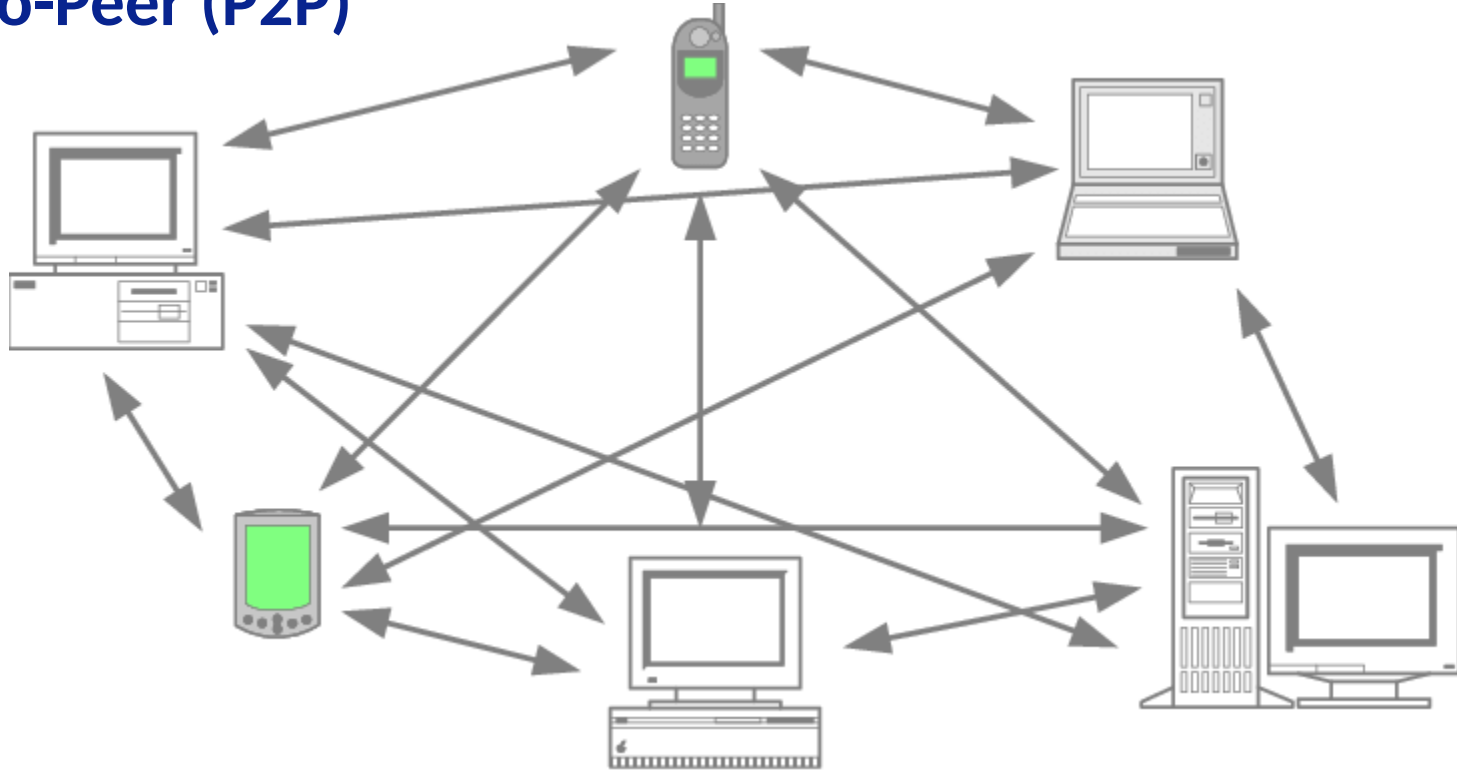


CENTRALIZED DATABASE VS BLOCKCHAIN



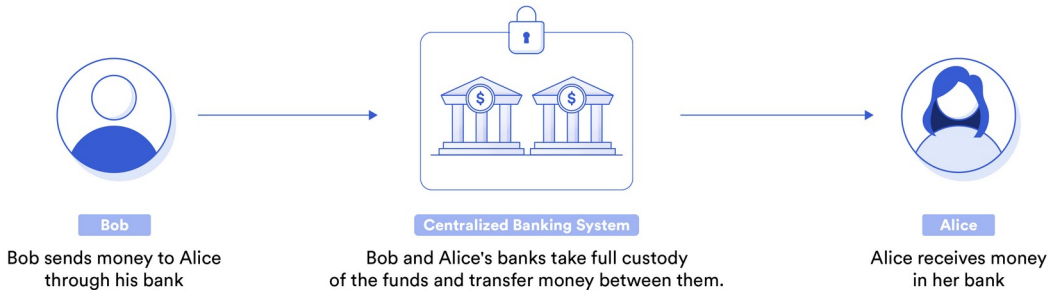
How does Blockchain work?

Peer-to-Peer (P2P)

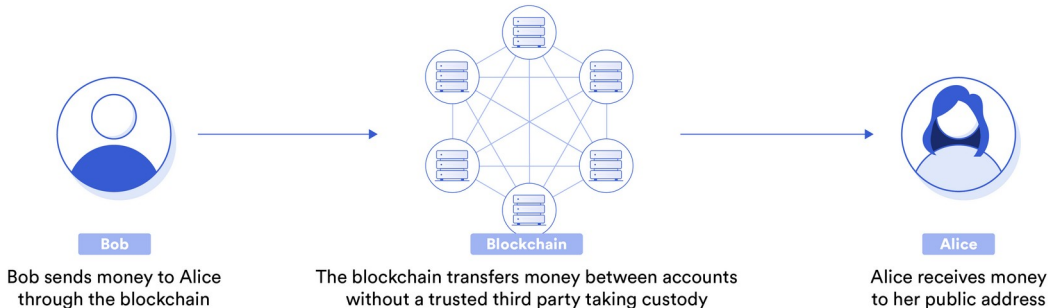


How does Blockchain work?

Centralized transaction



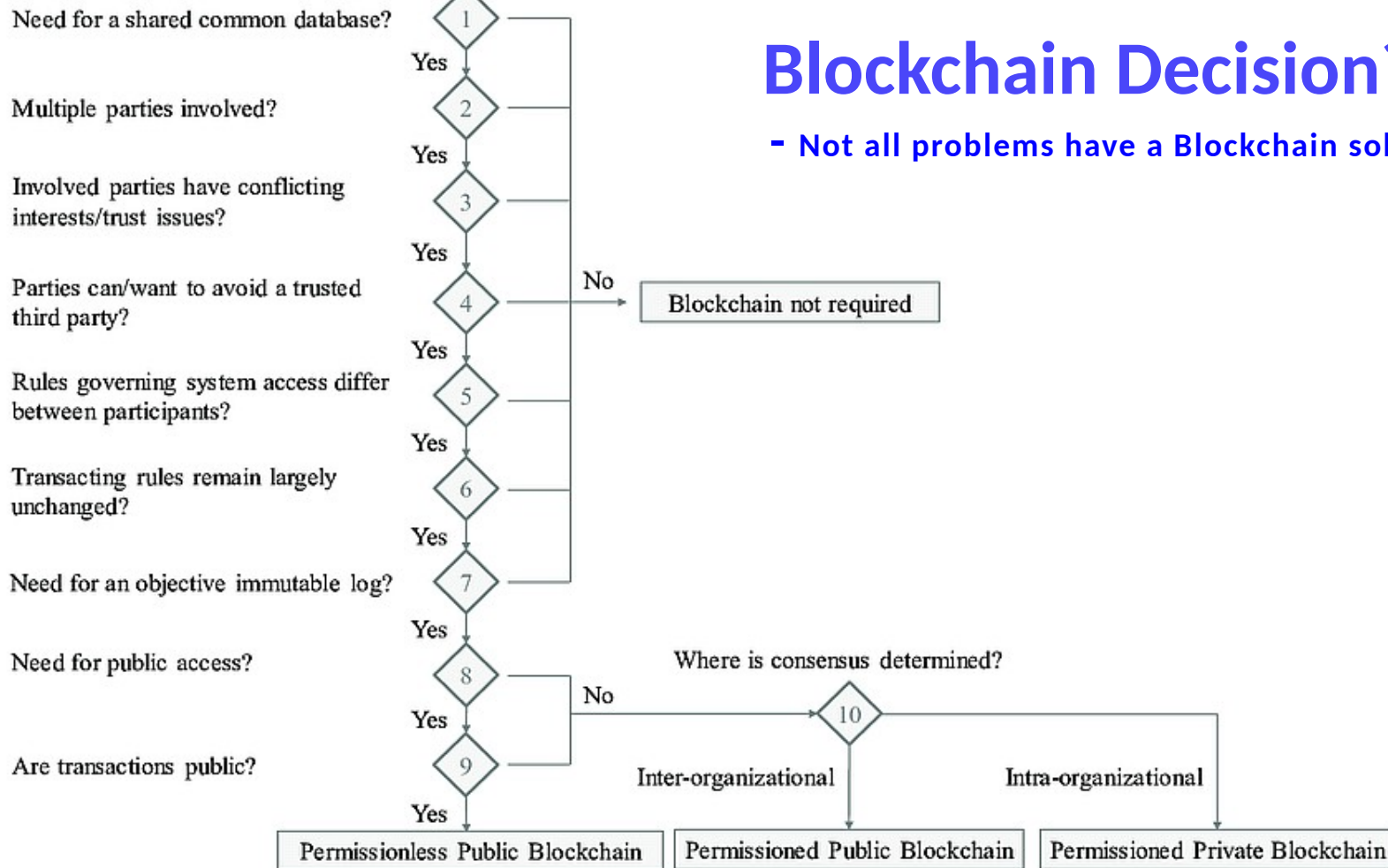
Decentralized transaction



Source: <https://chain.link/education-hub/blockchain>

Blockchain Decision?

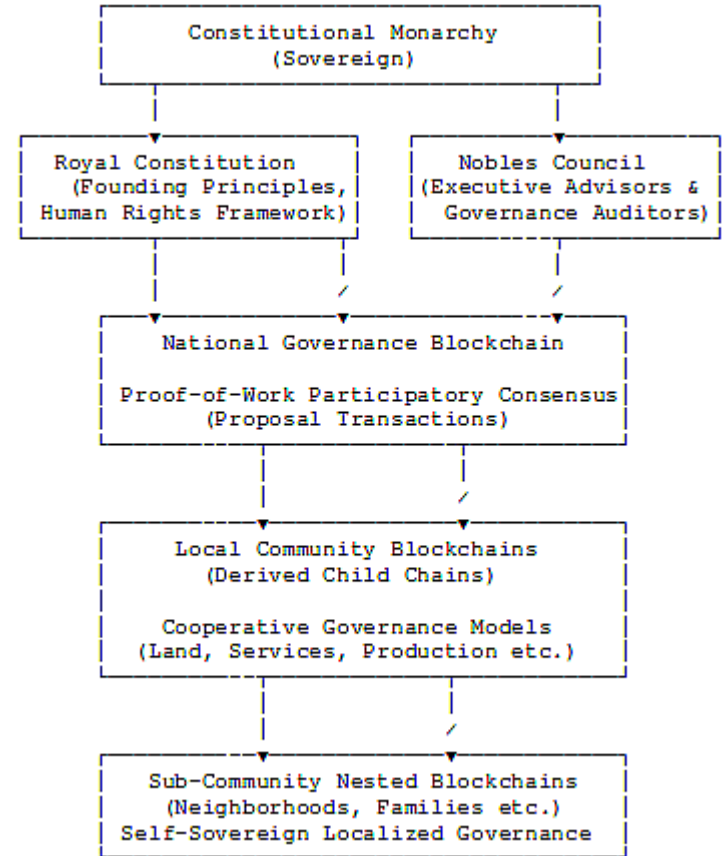
- Not all problems have a Blockchain solution



The Political Model

A Decentralized Micro-Governance Model for the Kingdom of Tonga Based on Proof-of-Work Consensus

- Restructuring Tonga's entire governance model around blockchains and proof-of-work consensus.
- By validating the authentic popular will directly from citizens through cryptography, we remove the need for institutional centralization and intermediaries.
- Policy outcomes emerge from the accountable expenditure of participatory efforts rewarded as sovereign equity stakes.



The Operating System

PasifikaOS

- The goal is not just to provide tools, but to empower our community with knowledge.
- At its core, the whitepaper outlines an innovative system where Tonga's Constitutional Monarchy establishes core national principles, while citizens directly enact policies through a proof-of-work blockchain.
- This allows a fluid balance between centralized guidance and radical decentralized autonomy, empowering communities to self-organize through participatory consensus.
- PasifikaOS will serve as the foundational digital infrastructure supporting this new paradigm.
- Each citizen running PasifikaOS on their devices will have the ability to engage directly with the national governance blockchain, proposing and validating policies that shape the future of their communities.



The Communication Channel

Satellite Broadband – Starlink, Amazon Kupier, Kacific, etc.

- Distributed – no single point of failure.
- Connect underserved communities and remote locations.
- Affordable and Reliable.
- Plug-n-Play.



Source: <https://github.com/EdwinLiavaa/liavaa.space/blob/main/blog/20240402/20240402.md>

The Renewable Energy Smart Micro-Grid

Decentralized microgrid, powered by a combination of solar, wind, and other clean energy sources.

- Distributed – no single point of failure.
- Connect underserved and remote locations.
- Affordable and Reliable.
- These microgrids would not only meet the energy needs of the local population.
- Also enable peer-to-peer energy trading, where surplus power can be exchanged across the network.



Source: <https://utilitymagazine.com.au>

Simple Calculation.

- [illegible]

Source: <https://tonga-data.sprep.org/dataset/openstreetmap-data-tonga>

The Renewable Energy Micro-Grid

Simple Calculation.

- The World Data Atlas In 2022, electricity net consumption for Tonga was 0.07 billion kWh (<https://knoema.com/atlas/Tonga/topics/Energy/Electricity/Electricity-net-consumption>)
- Using the previous roof area of 5,918,981 square meters:
 - Estimated annual solar energy production: 2,642,500,000 kWh
 - Tonga's 2022 electricity net consumption: 70,000,000 kWh
- Comparing the two:
 - The estimated solar energy production of 2,642,500,000 kWh is over 37 times greater than Tonga's 2022 electricity consumption of 70,000,000 kWh.



Source: <https://tonga-data.spreng.org/dataset/openstreetmap-data-tonga>

Simple Calculation.

- **Conclusion:**
 - With 5,918,981 square meters of available roof space, Tonga has the potential to generate over 37 times more solar electricity than its total 2022 electricity consumption of 70 million kWh.
 - This suggests Tonga's solar energy resources could easily meet its current electricity needs and provide a significant surplus, reducing the country's reliance on imported fossil fuels.



Source: <https://tonga-data.sprep.org/dataset/openstreetmap-data-tonga>

The Bitcoin Revolution

- A Vision for a Decentralized Future from Bitcoin 2024



President Donald Trump outlines his vision for a bitcoin-friendly America.



Michael Saylor presents a paradigm-shifting view of Bitcoin as the solution to our economic dilemmas.



Edward Snowden delivers a stark warning about the future of privacy in the age of AI and blockchain technology.

The Genie is out of the bottle



The Bitcoin Scholarship

- Are you a high school or college student?
- Want to work on building a peer-to-peer, decentralized, permission-less, censorship-resistant parallel system that protects property rights and freedoms globally?
- Chaincode Labs' The Bitcoin Scholarship will cover 100% of your tuition at ANY university WORLDWIDE.
- Fiat money is a ruler-based system that is programmed to debase.
- Bitcoin is a rules-based system that is programmed to be based.
- Which system do you want to expend your energy in building?
- Which system do you want to use to save your energy into the future?
- Deadline: August 31, 2024
- Apply here <https://bitcoinscholarship.xyz/>