

Horizon Scanning Web3 Latam

*Emerging trends that will influence
the impact of Web3 in Latin America,
its initiatives, businesses, regulations,
and adoption in the following years.*

Pluriversa

June 2022



About this report

Blockchain and distributed ledger technologies are groundbreaking and influential tools to potentially address the social and ecological challenges in the Global South and worldwide.

Latin America (*Latam*) is simultaneously a multicultural, multiracial, modern, and ancestral region.

Blockchain technologies are opening up new opportunities in the region, being adopted and creating disruption in several areas. In this report, we pretend to explore the signals, the trends, and the emerging concerns on how these technologies impact the political, economic, social, technological, environmental, and legal levels.

You can navigate a Miro version of this report here:
<https://bit.ly/HorizonScanningWeb3Latam>

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About Pluriversa

We focus on the transitions the Latin American society needs to respond to the structural inequity, the climate crisis, the technological revolution, and what we need to do today. Our identity emerges both physically and intellectually between the Global South and the Global North; thanks to this, we can understand the complex and deeply interconnected nature of ambiguous challenges in a unique way.

Our emerging design practice fuses cutting-edge methods with ancestral wisdom and advanced technology with solid ethical considerations for more democratic, distributed, and regenerative futures.

Contact: hello@pluriversa.org

Pluriversa

Global South
pluriversa.org
2022



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Introduction

We present our Horizon Scanning, which compiles lots of evidence and signals about what is going on in Latam and how technology and Blockchain seem to offer some solutions - for good or bad.

The report is a product of curious love for what we do, thanks to the collaborative work of the Pluriversa team, where designers, researchers, and even philosophers and lawyers connect for the common good.

We identified 11 trends that we expect to nudge and affect the region and the diversity of their peoples. Today we are amidst a social, environmental, technological, political, and legal tipping point. Centuries of colonialism and two decades of rapid growth have spawned enormous uncertainties and opportunities.

Understanding and innovating around these key trends is an excellent first step for private and public organizations looking to impact South & Central America today.



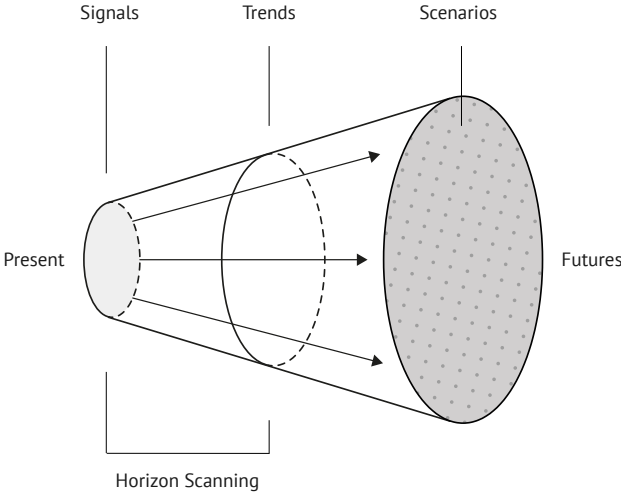
**"We live in increasingly uncertain times.
For many, this is a source of fear; for others,
it is a source of inspiration."**

If you need help and advice, or have any questions about this report, please email Miguel Bello, at hello@pluriversa.org.

About Horizon Scanning

Horizon Scanning is a vital component of Strategic Foresight, the process of looking for early warning signs of change in the strategic environment.

It helps us have a more open approach and build strategic intelligence to explore new opportunities and hidden disruptors.



Research Question

What opportunities and challenges do Web3 technologies in Latam present to international development institutions?



1. Latam Context Brief

The Web in the Global South

Latin America is driving the adoption of many emerging Web3 technologies because these could potentially address acute problems like inequality gaps, natural disasters, predation of natural resources, stagflation, data colonialism, massive migrations, mass adoption of new technologies, street violence, dictatorial regimes, and democratic crises.

We believe this context is the perfect environment for testing new visions that crush our ideas of what Web3 is all about.

In this chapter, we provide you with a short brief about the outlook and forecast of Latam.



Outlook and Forecast

SIX LARGEST CITIES

By population (million)

	2022	2035
1 Sao Paulo, Brazil	22.5	24.5 ▼
2 Mexico city, Mexico	22.0	25.4 ▲
3 Buenos Aires, Argentina	15.4	17.1
4 Rio de Janeiro, Brazil	13.6	14.8
5 Bogotá, Colombia	11.3	12.8 ▼
6 Lima, Peru	11.0	13.0 ▲

Source: Statista
Source: Office of the Director of National Intelligence

GDP PER CAPITA

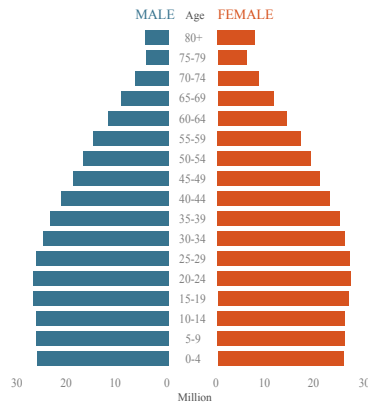
US\$ at purchasing power parity

2020	2035
\$13.4K	\$18.9K

Source: Oxford Economics

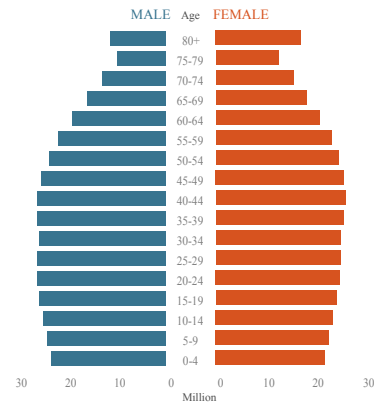
2020 AGE STRUCTURE

Under 15: 23.9%
15-64: 67.2%
65+: 8.9%



2040 AGE STRUCTURE

Under 15: 18.8%
15-64: 65.9%
65+: 15.2%

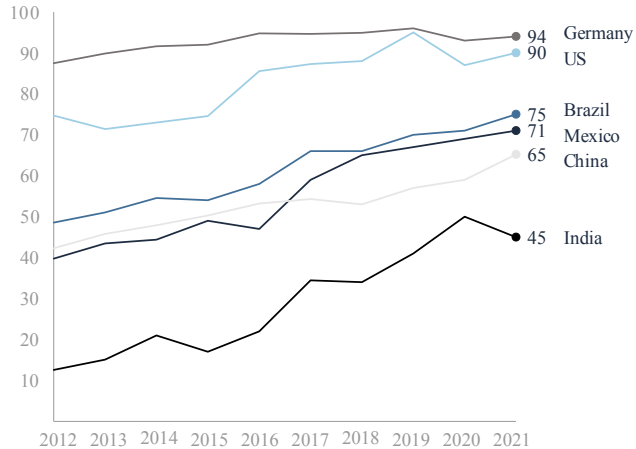


Source: Office of the Director of National Intelligence

Internet adoption - Comparison

INTERNET PENETRATION (%)

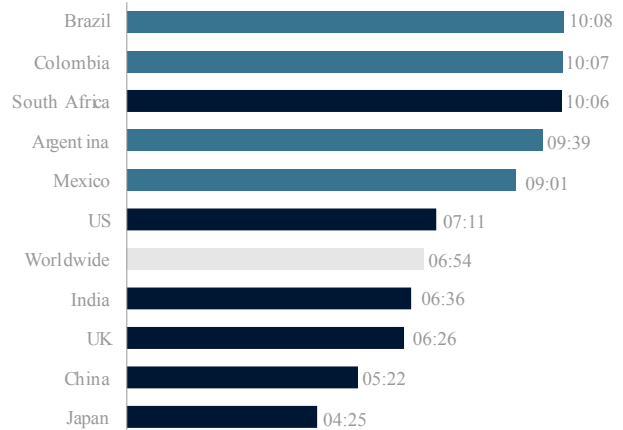
Number of internet users divided by total population



Source Atlantica

TIME PER DAY USING INTERNET IN HOURS, JAN 2021 (%)

Any device, hh:mm for internet users aged between 16-64



Brazil is not the country with the highest average time per day using the Internet. This graph has comparative intentions against relevant countries worldwide only.

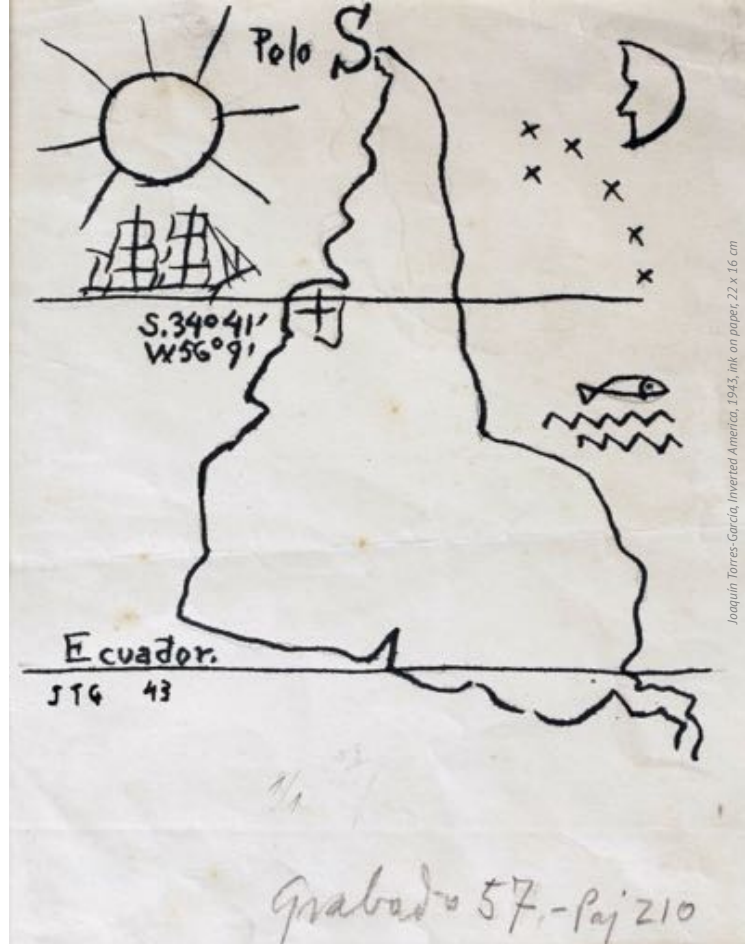
Source Atlantica

"Our North is the South"

Why do almost all maps and globes position North at the top and South at the bottom when there is no up or down orientation of the universe? Furthermore, items at the top of an image are usually understood to have more importance than those at the bottom, creating a hierarchical world ordering.

In 1943, Uruguayan artist Joaquín Torres-García questioned the implication that locations and cultural production in the northern hemisphere were somehow more significant than those in the global South. By redrawing the map of South America "upside down," he challenged assumptions about the world, the flow of influence, and even global power structures. He demonstrates that all maps are constructs that can be manipulated to convey the desired message. He, therefore, places Uruguay, his home country, at the centre of the image (indicated with a +) to show that he/the cartographer controls how the map communicates meaning, and that meaning needs to be interpreted rather than accepted at face value.

Extracted from World History Commons



2. Emerging Trends

About Signals

Signals are indicators of change or an emerging issue that may become significant in the future. According to their level of influence on the environment, we classify them into Strong or Weak. We define these signals by gathering relevant **Evidence** that help us speculate their importance in how it nurtures and increases a potential trend's momentum.

Strong Signals

- A more significant innovation or other relevant development that is evolving.
- A new solution, product, or service entering a competitive space, where different actors potentially will follow fast.
- New mindsets and factors that challenge current beliefs, assumptions or worldviews that might spread or snowball.
- Prominent warnings and emerging risks.

Weak Signals

- Small and incremental innovations or other minor developments that have the potential to mature.
- A new technology development that has not yet entered the mainstream.
- Evidence of an thing becoming obsolete or proof of a novel thing emerging.
- A recently revealed problem or indirect warning.

Signals' Tags

In addition, we included three tags to define the different Signals; some even might have more than one:



Signals look like this:



Evidence

You will find relevant links to news, solutions, cases and disruptors that compose the respective Signal.

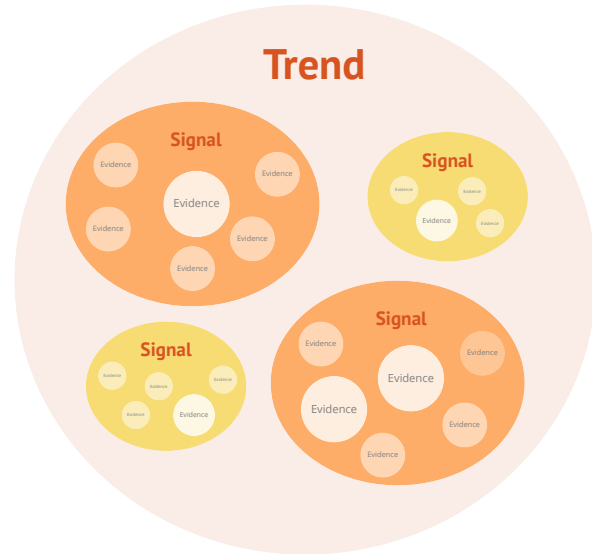
About Trends

A trend can be a general development or change in a situation or in people's behaviour that has a long-term impact.

A collage of strong and weak signals composes the soul of the Trends we identified. In the end, nobody knows if they will last or be a fad, so it's essential that you keep a critical perspective on them.

The structure of a Trend

- Scanning gathers a data bank of evidences that allows us to explore the political, economic, social, technological, environmental, and legal environments.
- We identify signals that allow us to interpret our surroundings to separate attention from intention.
- We define trends to understand better how emerging signals and issues will impact the future. A trend is timely, but persists over time, evolving as it emerges. Trends are not static.
- Recognizing these emerging patterns helps decision-makers develop resilient strategies to survive and thrive.



The structure of a Trend



11 Trends

- A The Rise of a Common Ethics
- B Advanced Food Production
- C Measuring Nature
- D Accelerating the Regeneration of Nature
- E Blockchain-powered GovTech
- F Supply Chains Disruption
- G Blockchain-powered Private Companies
- H Normative Tension
- I Increased Social Unrest
- J Nationalizing Crypto
- K New technology, same crimes

Trends Radar

Here is Pluriversa's analysis of what position organisations should consider about these Trends to impact the Global South. It includes their relevance for the future of the Web3 industry.

Act:

A lot of evidence and signals let us know the maturity of this trend.

Get ready:

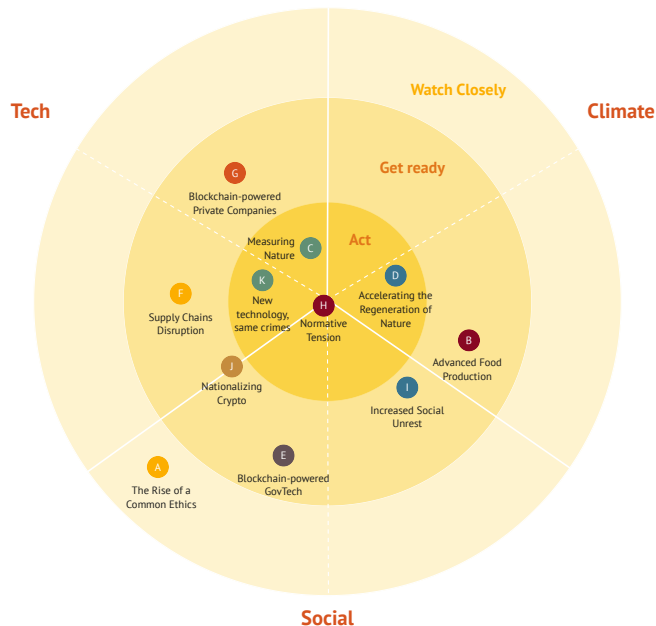
Strong but with new evidence that might accelerate the trajectory of this trend.

Watch closely:

Still important, but with weak signals and evidence that increases some uncertainties on the trajectory of this trend.

Level of proximity:

It denotes the proximity to this report's three main fronts: Tech, Social and Climate. It organises our thinking around these topics and their influences. Some social and climate-related Trends might be perceived as less relevant (to techies) now but still crucial for sustainable and inclusive futures.



How to interpret the following trends

Our framework organizes the trends into the following structure:

- 1 **Trend title and description**
Each Trend includes a concise description that is easy to understand.
- 2 **Why does it matter?**
The implications of this Trend on the region, the market or society.
- 3 **Signals' affinity map**
In the centre of the map, you will find a **Pivotal Signal** (hyper-connected signal) and its relations with others, including other external Pivotal Signals. The map shows the correlation between Signals and how they compose the emerging Trend.
- 4 **Signals**
This section includes Evidence for the Signal with links to news, solutions, cases and disruptors.

Advanced Food Production

Description
New urban agriculture and food-based start-ups are growing in the region. NEED is starting to clear the path for a list of challenges that includes having sustainable food sources, creating value opportunities directly with the consumer, giving smaller-scale producers, facilitating loans and insurance, and protecting producers from fraudsters.

Implementing IIT and AI in the food production chains to promote its value and gaining traction in some producers in the sector and NEED is also starting its plan.

Advanced Food Production

The connections
Collecting and analyzing food without disrupting the plant and fair conditions for the people that produce it is a mission challenge for the region.

Transparency is an emerging term for understanding and studying how Blockchain, AI, and IoT can relate to foster a digital ecosystem where transparency, efficiency and sustainability connects the key stakeholders that help them to thrive. Digital ecosystems like Deltas are emerging to address the various needs of these users: Small farms, local insurance, genetics, inputs, logistics and many more.

How this is a PIVOTAL position for considering where consumers can directly invest in their projects of choice. Farmers can use Big Agripreneurs, or transparency that reaches the point of genetic and connects farmers to loans and supplies.

Advanced Food Production

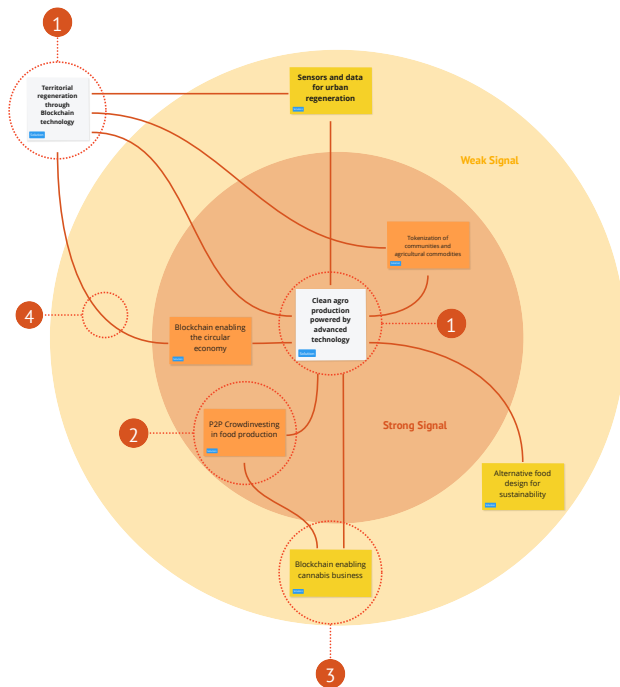
The Signals

Climate smart agriculture powered by AI and IoT Issues: - Blockchain Connected Ecosystem - Smart Farming, AI and IoT for monitoring and optimizing food production	Blockchain enabling the digital ecosystem Issues: - AI and IoT can relate to foster a digital ecosystem where transparency, efficiency and sustainability connects the key stakeholders that help them to thrive. - Digital ecosystems like Deltas are emerging to address the various needs of these users: Small farms, local insurance, genetics, inputs, logistics and many more.	AIOT Combining on food production Issues: - Blockchain Connected Ecosystem - Smart Farming, AI and IoT for monitoring and optimizing food production
Blockchain enabling the digital ecosystem Issues: - AI and IoT can relate to foster a digital ecosystem where transparency, efficiency and sustainability connects the key stakeholders that help them to thrive. - Digital ecosystems like Deltas are emerging to address the various needs of these users: Small farms, local insurance, genetics, inputs, logistics and many more.	Digital Farming enabling the digital ecosystem Issues: - AI and IoT can relate to foster a digital ecosystem where transparency, efficiency and sustainability connects the key stakeholders that help them to thrive. - Digital ecosystems like Deltas are emerging to address the various needs of these users: Small farms, local insurance, genetics, inputs, logistics and many more.	Blockchain enabling the digital ecosystem Issues: - AI and IoT can relate to foster a digital ecosystem where transparency, efficiency and sustainability connects the key stakeholders that help them to thrive. - Digital ecosystems like Deltas are emerging to address the various needs of these users: Small farms, local insurance, genetics, inputs, logistics and many more.

How to interpret the affinity maps

Affinity maps reveal the underlying interrelationships between Signals that affect each other and influence and structure the Trend. The map will draw a set of relevant relations between different Signals.

- 1 Pivotal Signal**
A Signal that is so powerful that it is hipper connected with many others. Pivotal Signals might even be external to the Trend but still influence other trends and Signals.
- 2 Strong Signal**
They are represented by their colour and proximity to the Pivotal Signal.
- 3 Weak Signal**
They are represented by their colour and separation from the Pivotal Signal.
- 4 Connections**
The connections within a map are dynamic; it defines a relationship of influence. One Signal can influence another and the Trend as a whole. A set of relations between the Signals provides structure to the Trend.





Trend

The rise of a Common Ethics

Description

Important Latin American countries are having a shift in the ethical agenda mainly due to left-wing governments. New political figures are questioning the traditional exploitative economies, patriarchy, environmental degradation and social injustice. And education and technology are at the centre of the conversation.

Leading regional institutions are building ethical frameworks, fostering participation in this conversation that can lead towards a shared understanding of what is good and harmful and mitigate potential threats to the public and nature.

The Rise of a Common Ethics

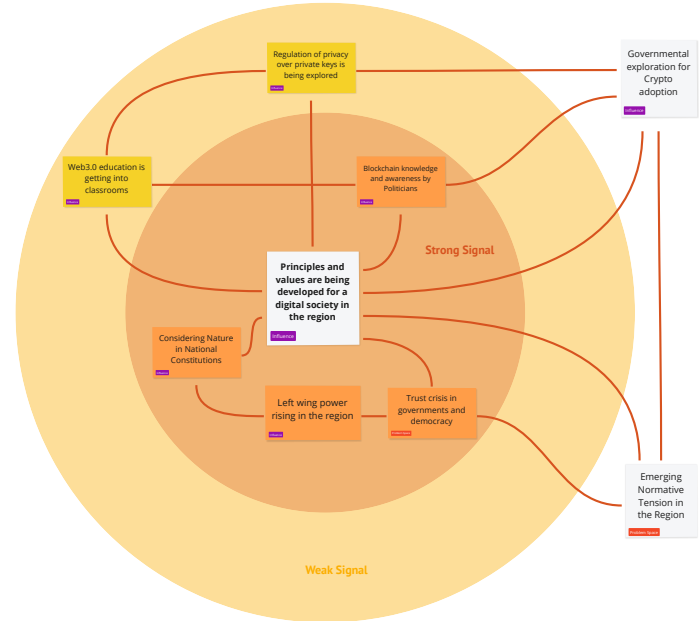
The connections

Why does it matter?

Global capitalism has created a value crisis in the region and the world; if we desire to survive and thrive in the challenging times ahead, a new set of values and worldviews are required to create sustainable and inclusive futures.

According to UNESCO, it will be essential to develop ethical principles on three fronts: the human at the centre with agile and impactful developments, open and auditable developments, and rethinking the rules and institutions for a digital economy.

Moral clarity will be necessary to escalate to a political arena where it can gain the trust of the people and can have a powerful impact on the region.



The Rise of a Common Ethics

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

Principles and values are being developed for a digital society in the region

Evidence

- [The road to an ethical artificial intelligence in Latin America](#)
- [Technology should be used for development](#)
- [Smart governments need smart citizens](#)
- [Colombia in the era of big data: technical and social challenges](#)
- <https://www.os.city/>

Trust crisis in governments and democracy

Evidence

- [Social crisis in Ecuador](#)
- [Uncertainty on vote counting for presidential elections in Colombia](#)
- [Decolonize Data](#)

Considering Nature in National Constitutions

Evidence

- [A new ecological Constitution for Chile and its effect on international environmental constitutionalism](#)
- [The draft of the new Constitution, the great "best-seller" in newsstands in Chile](#)
- [The right to the environment in the New Political Constitution of the Plurinational State of Bolivia](#)

Blockchain knowledge and awareness by Politicians

Evidence

- [The phrases about bitcoin by Gustavo Petro and Rodolfo Hernández, candidates in Colombia](#)
- [Brazilian Senate approves Bitcoin law to regulate cryptocurrencies](#)
- [Panamanian President returns the Bitcoin Law to the Assembly for adjustments](#)

Left wing power rising in the region

Evidence

- [Left-wing political victories across LatAm a sign of US repudiation](#)
- [Latin America looks to a new left](#)
- [Colombia's shift to the left: A new 'pink tide' in Latin America?](#)
- [Leftist Leaders Rise in Latin America Amid Widespread Economic Distress](#)

Web3.0 education is getting into classrooms

Evidence

- [Professionals to teach about bitcoin](#)
- [Bitcoin in classrooms in Argentina](#)
- [Bitget to offer free bitcoin technical analysis course for Latin America](#)
- [El Salvador inaugurates "La Casa del Bitcoin" educational centre](#)

The Rise of a Common Ethics

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

Regulation of privacy over private keys is being explored

Evidence

- [Brazilian proposal would make crypto payments legal and protect private keys](#)
- [Bitcoin in Latin America, a labyrinth of regulation and control](#)
- [Law passed in Louisiana, US, allowing banks in that state to hold Bitcoin in custody](#)
- [Russian Banks Want to Ban Self-Custody Crypto Wallets](#)



Trend

Advanced Food Production

Description

New clean agriculture and food-based start-ups are growing in the region. Web3 is starting to clear the path for a list of challenges that includes tracing sustainable food sources, enabling value transactions directly with the consumer, giving weather data to producers, facilitating loans and insurance, and protecting producers from devaluation.

Implementing IoT and AI in the food production chains is proving its value and gaining traction in some producers in the sector, and Web3 is also earning its place.

Advanced Food Production

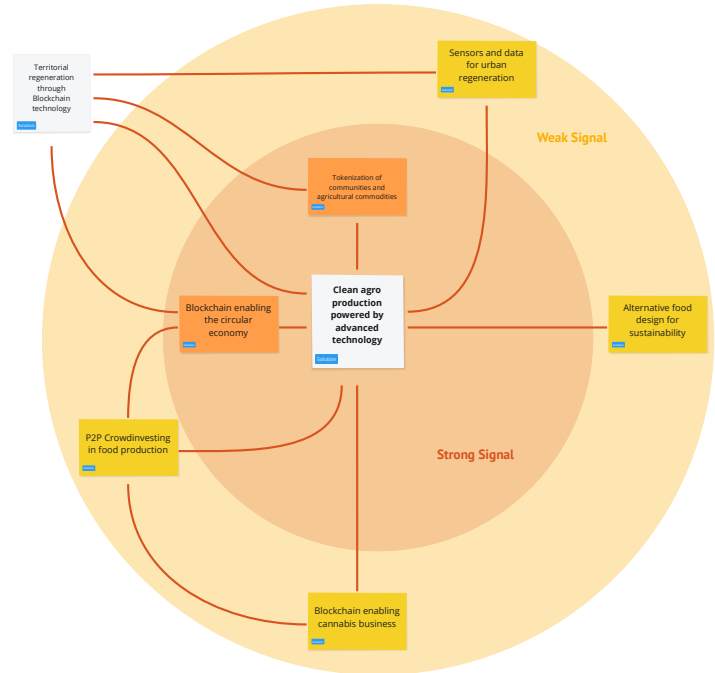
The connections

Why does it matter?

Cultivating and distributing food without diminishing the planet and in fair conditions for the people that produce it is a massive challenge for the region.

Trivergence is an emerging term for understanding and studying how Blockchain, AI and IoT can relate to foster a digital ecosystem where transparency, efficiency and sustainability connect to help small farmers get the help they need to thrive. Digital ecosystems like Dimitra are emerging to attend to the various needs of these users: DeFi loans, DeFi insurance, genetics, crops, logistics and many more.

Ethic Hub is a P2P platform for crowdlending where consumers can directly invest in their projects of choice. Farmers can now buy Agrotokens, a cryptocurrency that matches the prices of grains and connects farmers to loans and supplies.



Advanced Food Production

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

Clean agro production powered by advanced technology

Evidence

- [Data Driven Farming Ecosystem](#)
- [Trivergence: Blockchain, AI and IoT. For transforming food systems one farm at a time](#)

Tokenization of communities and agricultural commodities

Evidence

- <https://agrotoken.io/>
- <https://joinseeds.earth/>

P2P Crowdfunding in food production

Evidence

- [Ethic Hub is a P2P crowdlending platform for small agricultural communities.](#)

Blockchain enabling the circular economy

Evidence

- [ECLAC admits that technologies such as blockchain are essential to achieve sustainable development](#)
- [Sustainable fashion in Latin America is promoted through an application backed by blockchain technology](#)
- [The circular economy: How blockchain enables a safer world](#)
- <https://algramo.com/>

Blockchain enabling cannabis business

Evidence

- [Colombia approved a new regulation that regulates the sale of cannabis for medicinal purposes](#)
- [Cannabis in the metaverse: how the Crypto Cannabis Club community works](#)
- [Buds on the Blockchain: The Road Ahead for Crypto & Cannabis](#)

Sensors and data for urban regeneration

Evidence

- [Internet of Nature is the answer to building healthy urban ecosystems](#)
- [Master in Ecodiseño - IOT, Lifecycle & Urban Regeneration](#)

Advanced Food Production

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

Alternative food design for sustainability

Evidence

- [Technologies for scaling up cultured/clean meat production](#)
- <https://www.eternal.bio/>



Trend

Measuring Nature

Description

Measuring processes and the degradation of our natural resources is becoming a top priority in the region. Web3 fosters collaboration for data exchange and more accountable processes to complement and develop existing systems and provide token-type incentives to responsible decentralized participants.

On the other hand, Web3 enables the aggregation of data of public and private projects for the Carbon Compensation Contribution established in the Paris Agreement.

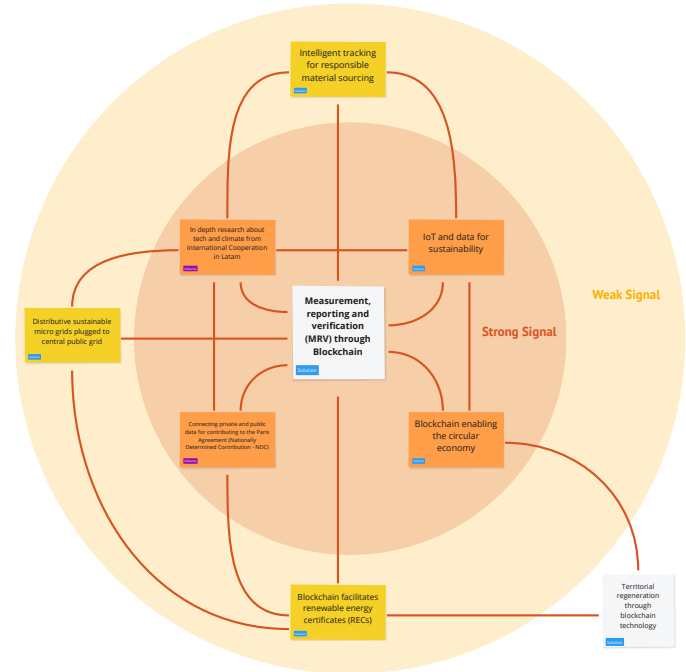
Measuring Nature

The connections

Why does it matter?

Protecting the Latin American environment and the Amazon forest is crucial for absorbing carbon offsets worldwide.

At the same time, enabling the energy transition is imperative for the sustainment of the region. Also, distributing power and economic benefits can unleash great opportunities for the people that can contribute. Open Lab created a distributed micro-grid solar panel system that the people governed to restore Puerto Rico after Hurricane Maria. In Chile, urban organic waste is being composted and measured in the Blockchain to comply with its international commitments to reduce Greenhouse Gas (GHG) emissions from the waste sector. Also, the first open market for carbon trading is available on the Blockchain.



Measuring Nature

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

Measurement, reporting and verification (MRV) through Blockchain

Evidence

- [Blockchain for sustainable energy and climate in the Global South](#)
- <https://www.mercadoselectricos.com.sv/en/>
- <https://www.accion.cl/>

In depth research about tech and climate from international Cooperation in Latam

Evidence

- [LACChain: Preparing the path for Blockchain use in Latin America and the Caribbean](#)
- [Technology for climate action in Latin America and the Caribbean](#)
- [Blockchain for sustainable energy and climate in the Global South](#)

Connecting private and public data for contributing to the Paris Agreement (Nationally Determined Contribution - NDC)

Evidence

- <https://recicloorganicos.com>
- [Open Solar Microgrids in Puerto Rico](#)

Blockchain enabling the circular economy

Evidence

- [ECLAC admits that technologies such as Blockchain are essential to achieve sustainable development](#)
- [Sustainable fashion in Latin America is promoted through an application backed by blockchain technology](#)
- [The circular economy: How blockchain enables a safer world](#)
- <https://algramo.com/>

IoT and data for sustainability

Evidence

- [Experimenting with drones to improve forest management](#)
- [Microsoft Cloud for Sustainability comes to support Latam businesses](#)
- [A device to hear animals and bullets in the forest](#)
- [IoT for Sustainability Micro-credential](#)
- <https://www.green4t.com/>

Intelligent tracking for responsible material sourcing

Evidence

- <https://www.axedras.com/>
- <https://www.minespider.com/>
- [Algorithm Finds Signs of Slavery in Amazon Rainforest](#)

Measuring Nature

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

Distributive sustainable micro grids plugged to central public grid

Evidence

- [Residential Solar energy with no upfront cost funded in Mexico by Ycombinator](#)
- [Solarization of the island of Puerto Rico after Hurricane Maria](#)

Blockchain facilitates renewable energy certificates (RECs)

Evidence

- <https://www.eco2.cc/>
- [The Blockchain and energy attribute tracking](#)
- [Renewable Energy Certificate Markets: Blockchain Applied](#)
- [Decentralized Renewable Energy \(DRE\) through Blockchain](#)
- [Blockchain renewables certification scheme launched in Uruguay](#)



Trend

Accelerating the regeneration of Nature

Description

Regeneration is becoming an essential mobilizer for communities and stakeholders that aim to protect and restore affected zones with ecosystemic importance. This is particularly relevant in areas that have historically lacked state presence.

Despite the increasing violence against social and environmental leaders, the natural guardians of the territory, a new generation of activists and entrepreneurs are emerging to help in the fight to protect and regenerate our environments.

Accelerating the regeneration of Nature

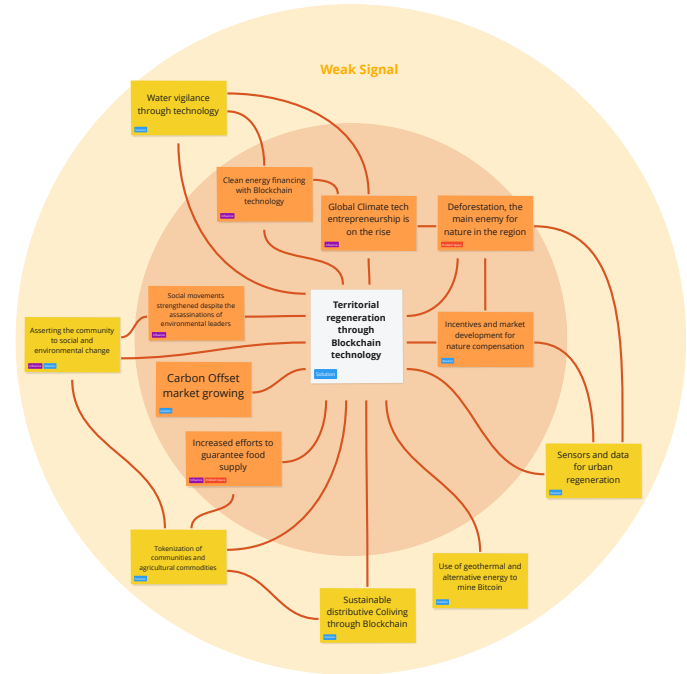
The connections

Why does it matter?

Latin America's ecosystems are essential for the region and the planetary web of life. The impossibility of governments being present everywhere makes protection and regeneration more challenging.

Regeneration through blockchain technology is getting attention from governments, communities, and the private sector. ADBs (Autonomous Decentralized Bioregions) are getting attention on behalf of local communities. AgTech sustainable projects are gaining strength.

Growth in the carbon market and challenges in the global food supply chains are leading towards a sophistication in the sector. This is an opportunity that many countries can seize.



Accelerating the Regeneration of Nature

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

Territorial regeneration through Blockchain technology

Evidence

- [Seeding Decentralized Autonomous Bioregions \(DABs\)](#)
- [Could the Blockchain help save the Amazon?](#)
- [Use of data and AI for conservation in Mexico](#)
- [Saving 1000 hectares with NFTrees in Paraguay](#)

Incentives and market development for nature compensation

Evidence

- <https://www.single.earth>
- <https://www.regen.network>
- [Climate Blockchain startup Moss.earth, nabs US\\$10 M in a funding round](#)
- <https://mco2token.moss.earth/es>

Global Climate tech entrepreneurship is on the rise

Evidence

- <https://www.globalclimatelandscape.org>
- [Why Big Tech is pouring money into carbon removal](#)

Increased efforts to guarantee food supply

Evidence

- [Blockchain Platforms for sustainable food production](#)
- [Blockchain Technology toward Creating a Smart Local Food Supply Chain](#)
- [Nestle to trial blockchain for palm oil in Latam](#)
- [Argentine ag blockchain platform ucrop.it raises seed funding](#)

Deforestation, the main enemy for nature in the region

Evidence

- [Livestock generates 60 times more deforestation than coca](#)
- [Fire as an instrument to eliminate forest and replace it with crops](#)
- [Deforestation in the Brazilian Amazon breaks record so far this year](#)
- [Deforestation due to illegal mining increases in four indigenous communities](#)

Carbon Offset Market Growing

Evidence

- <https://sistema.bio>
- [Moving towards a Latin American carbon market](#)
- [How BP Got a Deal on Carbon Offsets in Rural Mexico](#)
- [The World's First Carbon Trading Blockchain: A Decentralized, Borderless, & Transparent Ecosystem for Carbon Finance](#)

Accelerating the Regeneration of Nature

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

Clean energy financing with Blockchain technology

Evidence

- [Sustainable Investment Awards 2022](#)
- <https://thesunexchange.com>
- <https://www.energyweb.org>

Sensors and data for urban regeneration

Evidence

- [Internet of Nature is the answer to building healthy urban ecosystems](#)
- [Master in Ecodiseño - IOT, Lifecycle & Urban Regeneration](#)

Sustainable distributive Coliving through Blockchain

Evidence

- <https://smartvillage.ca/regenvillages/>
- [Funding an Ecovillage with NFTs](#)

Social movements strengthened despite the assassinations of environmental leaders

Evidence

- [How to understand the wave of murders of social leaders in Colombia during the pandemic?](#)
- [Colombia and Mexico, the countries in the world where more environmental leaders are killed](#)
- [Latin America remains the most dangerous region for environmental defenders](#)

Asserting the community to social and environmental change

Evidence

- [Ecosystems of Local Innovation to Strengthen Agroecology in Colombia](#)
- [Coombo, a strategic design cooperative](#)
- [Territorial or Community Foundations are spreading](#)

Water vigilance through technology

Evidence

- <https://www.waterplan.com/>
- [Di Caprio and Ginobili finance an Argentine startup with seven million dollars](#)

Accelerating the Regeneration of Nature

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

Use of geothermal and alternative energy to mine Bitcoin

Evidence

- [A Kenyan Energy Firm Lures Bitcoin Miners With Geothermal Power](#)
- [El Salvador uses geothermal energy for bitcoin operation](#)
- [Bitcoin City a utopia?](#)
- [Validus Power to build crypto/HPC data center, resurrect gas power station in Ontario, Canada](#)

Tokenization of communities and agricultural commodities

Evidence

- <https://agrotoken.io/>
- <https://joinseeds.earth/>



Trend

Blockchain-powered GovTech

Description

Governments throughout the region are trying to adopt Web3 technologies to address specific problems (corruption, state abandonment, democratic risks, and privacy issues, among others).

More and more resources are being assigned by governments towards exploration and studies in advanced technologies, mainly driven by the fast adoption of new technologies in the region, one of the highest worldwide.

Exploration is key to knowing what will work and how to get there, and collaboration and clear game rules are a must for these initiatives to flourish. However, success is not guaranteed, and some of these initiatives might result in either no solutions or risk becoming a liability.

There are many promises on behalf of Blockchain, but there is no clear path to adopting and implementing the technology.

Blockchain-powered GovTech

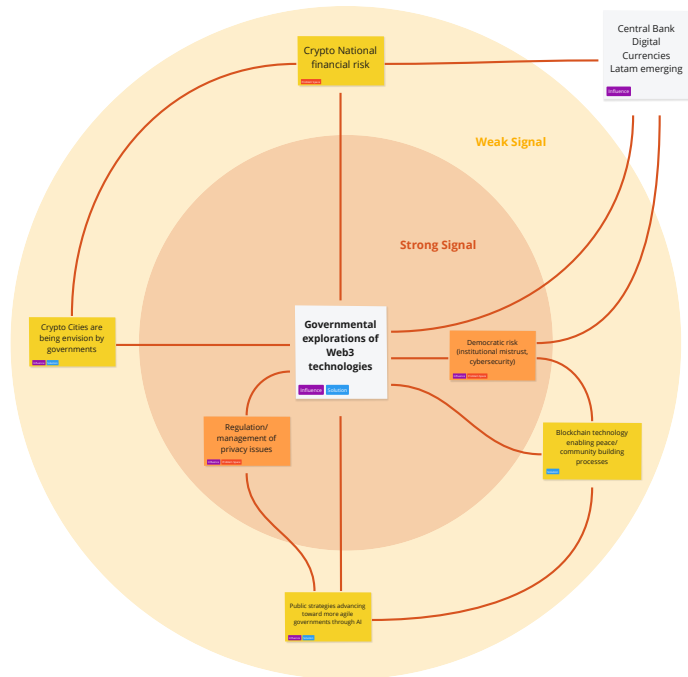
The connections

Why does it matter?

Democratic institutions are being challenged in new ways all over the planet, and Latam is no exception. Governments need to update their technologies to secure democracy and deliver institutions that work. They have to understand how to implement and regulate these new technologies. Most importantly, they have to deal with the question of "who owns the data".

Web3 technologies are part of this challenge. Using them, governments have the potential to update how institutions operate, regain citizens' trust, and help fight corruption, among other things.

One major Web3 risk is the rise of cryptocurrencies and how they should be regulated. These have the potential to disrupt how economies operate. There isn't a clear path to how Web3 should explore solutions or whether they will have a positive impact. Some of these initiatives even have the potential to become a liability to citizens, both in terms of the deprivation of liberties and their privacy, as well as opening the possibility for new forms of corruption.



Blockchain-powered GovTech

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

Governmental explorations of Web3 technologies

Evidence

- <https://www.os.city>
- [Venezuela's decentralized stock based on tokens and digital contracts](#)
- [Venezuela auctions its first state-owned NFT for more than \\$10,000](#)
- [An International Airport in Venezuela Will Accept Bitcoin Payments](#)
- [Blockchain and integrity: public policy applications](#)

Democratic risk (institutional mistrust, cybersecurity)

Evidence

- [Social crisis in Ecuador](#)
- [Uncertainty on vote counting for presidential elections in Colombia](#)
- [Decolonize Data](#)

Regulation/ management of privacy issues

Evidence

- [Covid tool CoronaApp, does not work](#)
- [Toronto wants to kill the smart city forever](#)
- [The social sector too often extracts and siloes data from the communities it supposedly serves.](#)

Blockchain technology enabling peace/community building processes

Evidence

- [This is how Blockchain is used to guarantee land restitution](#)
- [Government of Colombia presents pilot of land registration in Ethereum](#)

Crypto Cities are being envisioned by governments

Evidence

- [Venezuelan Governor Proposes the Creation of "Bitcoin City"](#)
- [Bitcoin City: El Salvador president unveils layout of 'crypto utopia'](#)
- [Crypto millionaires are pouring money into Central America to build their own cities](#)

Public strategies advancing toward more agile governments through AI

Evidence

- [Potential impact of the use of artificial intelligence in public employment in Latin America](#)
- [Police has been modernised to reduce the time taken to process police summonses from two years to two months.](#)

Blockchain-powered GovTech

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

Crypto National Financial risk

Evidence

- [Crypto crash leaves El Salvador with no easy exit from worsening crisis](#)
- [El Salvador buys bitcoin for 1.45 million euros in the midst of 'cryptowinter'](#)
- [Salvadorans say that Bitcoin did not benefit their family economy](#)
- [IMF: Bitcoin as legal tender is a \(very\) risky business](#)
- [El Salvador's minister dismisses Bitcoin crash despite 50% loss in reserves](#)
- [What will the crypto crash mean for 'bitcoin nation' El Salvador?](#)



Trend

Supply Chain Disruption

Description

Shortages and supply chain stress are also a reality in Latin America. The technology appears as a potential ally to the producer who is the most adversely affected in the value chain; at the same time, it gives greater agility and automation to the logistics chains to big players who can streamline their processes through the Blockchain.

After decades of production lagging behind global standards, Latin America is making a significant leap in the sophistication of its production chains thanks to these new technologies, which are mixed with sustainable practices.

This powerful team between high technology and respect for mother earth has the potential to reinvent the supply chains and transform the local economy and the territories.

Supply Chains Disruption

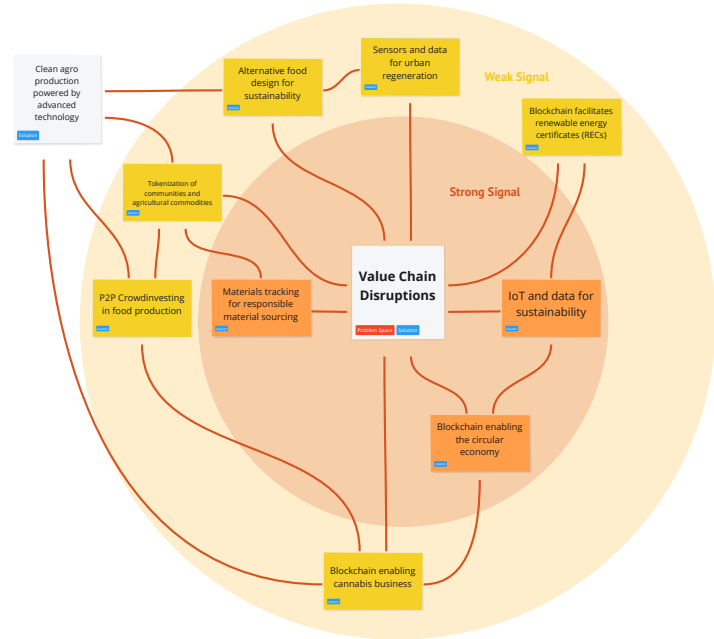
The connections

Why does it matter?

The economy of Latin America depends mostly on small producers struggling to survive. Often these producers have so many intermediaries and barriers that despite their enormous work, they are not paid as they should, increasing the risk of poverty and displacement.

Connecting consumers and producers without intermediaries is an idea that has always been in the air, and Web3 could support this transformation. In the Global South, a robust use case for Blockchain technologies in bringing social justice bringing clarity and transparency for payment to producers

On the other hand, logistics in supply chains is a task involving many actors and processes. We see significant attention by regional players in using the Blockchain to centralise and trace all operations clearly and transparently.



Supply Chains Disruption

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

Value Chain Disruptions

Evidence

- <http://www.agriledger.io/>
- <https://www.lemonade.com/blog/crypto-climate-coalition/>
- <https://openfoodnetwork.org/>
- <https://koa-impact.com/>
- [Implementation of Blockchain in the logistics field of Latin America](#)

IoT and data for sustainability

Evidence

- [Experimenting with drones to improve forest management](#)
- [Microsoft Cloud for Sustainability comes to support Latam businesses](#)
- [A device to hear animals and bullets in the forest](#)
- [IoT for Sustainability Micro-credential](#)
- <https://www.green4t.com/>

Blockchain enabling the circular economy

Evidence

- [ECLAC admits that technologies such as Blockchain are essential to achieve sustainable development](#)
- [Sustainable fashion in Latin America is promoted through an application backed by Blockchain technology](#)
- [The circular economy: How Blockchain enables a safer world](#)
- <https://algramo.com/>

Materials tracking for responsible material sourcing

Evidence

- <https://www.axedras.com/>
- <https://www.minespider.com/>

Alternative food design for sustainability

Evidence

- [Technologies for scaling up cultured/clean meat production](#)
- <https://www.eternal.bio/>

Blockchain enabling cannabis business

Evidence

- [Colombia approved a new regulation that regulates the sale of cannabis for medicinal purposes](#)
- [Cannabis in the metaverse: how the Crypto Cannabis Club community works](#)
- [Buds on the Blockchain: The Road Ahead for Crypto & Cannabis](#)

Supply Chains Disruption

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

P2P Crowdfunding in food production

Evidence

- [Ethic Hub is a P2P crowdfunding platform for small agricultural communities](#)

Blockchain facilitates renewable energy certificates (RECs)

Evidence

- <https://www.eco2.cc/>
- [The Blockchain and energy attribute tracking](#)
- [Renewable Energy Certificate Markets: Blockchain Applied](#)
- [Decentralized Renewable Energy \(DRE\) through Blockchain](#)
- [Blockchain renewables certification scheme launched in Uruguay](#)

Sensors and data for urban regeneration

Evidence

- [Internet of Nature is the answer to building healthy urban ecosystems](#)
- [Master in Ecodiseño - IOT, Lifecycle & Urban Regeneration](#)

Tokenization of communities and agricultural commodities

Evidence

- <https://agrotoken.io/>
- <https://joinseeds.earth/>



Trend

Blockchain-powered Private companies

Description

In recent years Latin America has been experiencing a wave in tech entrepreneurship and investments in tech startups. Now it is evident that the digitalization trend of the region goes towards Web3 technologies by private companies at the head.

When it comes to technology, companies understand that they must either adapt and evolve or risk becoming irrelevant. Almost all the most prominent tech players in the region are adopting Web3 technology in their new offerings.

Money is pouring into new initiatives throughout the Latam region, and some projects might potentially result in innovative products and services. This has spurred an important number of startups. Each day that passes, the entrepreneurial ecosystem in the region seems to gain some strength.

Blockchain-powered Private companies

The connections

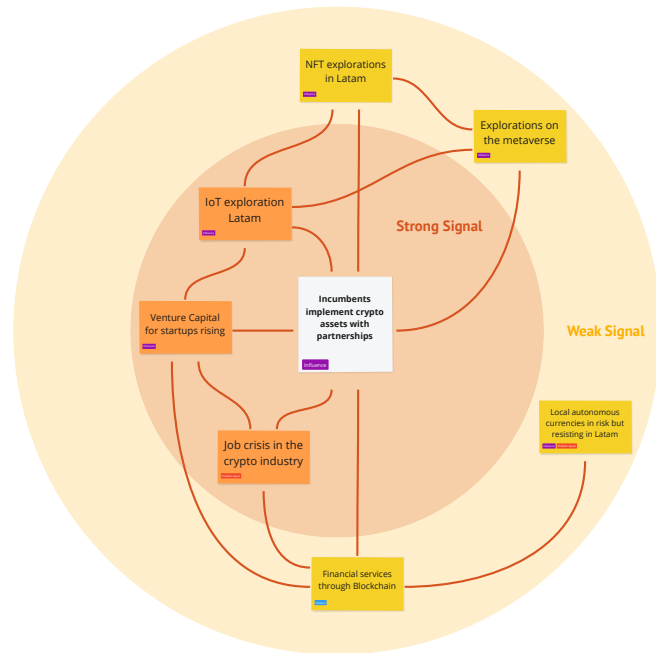
Why does it matter?

The decisions private companies in Latam make can significantly affect the global economy. If big players start implementing Web3 technologies, this will impact many different aspects of the region. The same goes for new players that arise.

This brings many opportunities but also entails important risks, especially when companies fail. Volatility seems to be increasing for tech companies, especially as political, economic, and social factors come into play.

The decentralization of essential services like finance is one major aspect of the region. Historically, it has been characterized by high levels of wealth concentration and many unbanked citizens. Web3 has the potential to change this.

Another crucial aspect is the ownership of the data. As decentralization struggles to become the new-normal, significant changes are expected in terms of how businesses operate and how customers use digital products and services. Privacy is relevant to this Trend, and protecting it or not is a major question to answer.



Blockchain-powered private companies

The Signals

 Pivotal Signal  Strong Signal  Weak Signal

Incumbents implement crypto assets with partnerships

Evidence

- [Money is about to enter a new era of competition](#)
- [Fast food chain in Venezuela will pay bonuses to its employees in Dash](#)
- [Mastercard adds two startups from Latin America to its crypto program](#)
- [Nubank Now Allows 53 Million Brazilians To Buy Bitcoin](#)

IoT exploration Latam

Evidence

- [How IoT is Solving Everyday Challenges in Latin America](#)
- [IoT, a 7.6 billion dollar market in Latam](#)

Job crisis in the crypto industry

Evidence

- [Wave of layoffs intensifies in the technology and cryptocurrency sector](#)
- [More than 17,000 layoffs were made by the "startups" in May 2022](#)
- [Crypto Winter Mass Layoffs Are Here – But the Industry Will Survive](#)
- [Layoffs increase in the middle of "crypto winter."](#)
- [Uphold Leaves Venezuela and asks users to withdraw their cryptocurrencies.](#)

Venture Capital for startups rising

Evidence

- [Latin America's as the world's fastest-growing region for venture funding](#)
- [Why Latin America's Insurtech Revolution Is Just Getting Started](#)
- [How Latin America Has Become the Next Silicon Valley](#)

NFT explorations in Latam

Evidence

- [A digital community that aims to disseminate, connect and preserve the physical and digital history of the Wixárika culture.](#)
- [The future of NFTs in Latin America lies in gaming and the metaverse](#)
- [Verse and StarSe joined forces to launch the first Web3 event ever](#)
- [NFT break into Colombia with art, video games and mining contracts](#)

Explorations on the metaverse

Evidence

- <https://www.axedras.com>
- <https://www.minespider.com>
- [The Future 100 Latam in the Metaverse](#)

Blockchain-powered private companies

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

Local autonomous currencies in risk but resisting in Latam

Evidence

- [Totnes pound: Currency killed by 'cashless economy'](#)
- [The municipality of Colombia where they do not pay with pesos but with Rocks](#)
- [Túmin, a currency that resists](#)

Financial services through Blockchain

Evidence

- <https://tropykus.com>
- [Wayniloans is a P2P lending platform with bitcoins](#)
- <https://paxful.com/>
- <https://p2p.binance.com/en>



Trend

Normative Tension

Description

Since El Salvador established Bitcoin as a legal tender, many Latin American companies and banks operating in the country have been forced to implement the new currency. For instance, a prominent Colombian bank with operations in Central America now has Bitcoin in the middle of its core operating business, even though regulation in its home country is still limited. This snowball effect is part of the Bitcoin game theory already in place.

The number of Web3 initiatives has seen a significant increase in the region. Innovation is moving fast, and investments are constantly flowing into new projects. However, this also poses several challenges from a regulatory and legal standpoint. Both successful and failed projects can have a disruptive impact, and governments seem to lack the adequate tools and speed to regulate these initiatives.

Normative Tension

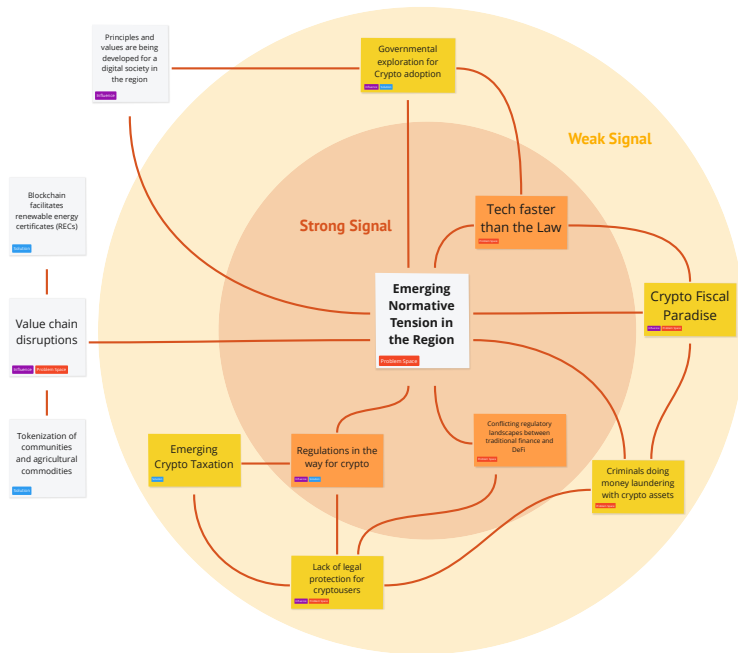
The connections

Why does it matter?

Technology moves faster than governmental efforts, and lawmakers are unclear on what to do regarding Web3-related issues. There is a need for faster regulating mechanisms and better-informed government institutions that understand what the problems are.

In terms of the market, disruption often has a positive connotation. However, certain Web3 technologies, like cryptocurrencies, for example, have the potential to change the economy drastically. Other Web3 solutions can also alter existing players in specific industries and supply chains. These changes can have some benefits, but if regulated inadequately or left exclusively to market forces, they can also cause harm.

Governance is becoming highly technical in terms of the technologies being used, and officials seem to lack the necessary know-how and tools. If governments fail to deliver laws protecting their institutions, markets, and citizens from Web3 innovations, social unrest may end up being the result; or maybe, this techno-social disruption is why Bitcoin was created in the first place.



Normative Tension

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

Emerging Normative Tension in the Region

Evidence

- [Blockchain regulation and digital identity in Latin America](#)
- [Latin America advances in the regulation of cryptocurrencies](#)
- [This is how Latin America regulates the use of cryptocurrencies](#)

Tech faster than the Law

Evidence

- [The revolution of the metaverse: normative, legal and regulatory challenges](#)
- [Elizabeth Warren's anti-crypto crusade splits the left](#)
- [Cryptocurrency unicorn Bitso lands in Colombia looking to 'work hand in hand with regulators'](#)

Conflicting regulatory landscapes between traditional finance and DeFi

Evidence

- [Fintech Law and regulation for Bitcoin Cryptocurrency](#)
- [Primer on DeFi: Risks and Regulations](#)

Regulations in the way for crypto

Evidence

- [Latam Fintech Regulation](#)
- [Parliamentarian has presented a proposal for a bill to regulate cryptocurrencies in Peru](#)
- [Colombia: They approve the first project debate to regulate cryptocurrencies](#)

Governmental explorations of Web3 technologies

Evidence

- <https://www.os.city>
- [Venezuela's decentralized stock based on tokens and digital contracts](#)
- [Venezuela auctions its first state-owned NFT for more than \\$10,000](#)
- [An International Airport in Venezuela Will Accept Bitcoin Payments](#)
- [Blockchain and integrity: public policy applications](#)

Crypto Fiscal Paradise

Evidence

- [A crypto-libertarian paradise just lost an existential battle with Honduras](#)
- [Bitcoin paradise? Briton creates 'crypto utopia' in South Pacific](#)
- [11 Countries That Don't Tax Bitcoin Gains](#)

Normative Tension

The Signals

 Pivotal Signal  Strong Signal  Weak Signal

Criminals doing money laundering with crypto assets

Evidence

- [Reuters: "Binance became a hub for drug dealers, scammers and hackers"](#)
- [Mexican cartels use cryptocurrencies to launder money: UN](#)

Lack of legal protection for cryptousers

Evidence

- [Colombians denounce Binance for freezing their accounts with bitcoins](#)
- [Latam: Crypto clipping, an attack that spreads](#)
- [Celsius stops withdrawing money to "protect its users" CeFi in danger?](#)

Emerging Crypto Taxation

Evidence

- [Holders of NETs in Colombia must declare them to the DIAN, according to a specialist](#)
- [Nicolas Maduro from Venezuela reported a new tax to operate with cryptocurrencies](#)
- [Guide to taxes on bitcoin and cryptocurrencies](#)

Value chain disruptions

Evidence

- <http://www.agriledger.io/>
- <https://www.lemonade.com/blog/crypto-climate-coalition/>
- <https://openfoodnetwork.org/>
- <https://koa-impact.com/>
- [Implementation of Blockchain in the logistics field of Latin America](#)

Principles and values are being developed for a digital society in the region

Evidence

- [The road to an ethical artificial intelligence in Latin America](#)
- [Promoting AI ethics research in Latin America and the Caribbean](#)
- [Technology should be used for development](#)
- [Smart governments need smart citizens](#)
- [Colombia in the era of big data: technical and social challenges](#)



Trend

Increased Social Unrest

Description

Social inequity and injustice are at their peak; we failed as a society. The weak economic outlook is fuel for social unrest already on fire. The population imprisonment is the highest in history and is just increasing.

Despite the difficult situation, social movements continue their struggle. Indigenous national movements are making their voice heard, and the eco-feminist movement is growing strongly in several Latam countries.

Murder and threats against social leaders have become a constant element in the region, and some cases involving the government have been discovered. Mexico and Colombia top the list of countries with the highest risk for social and environmental leaders in Latam.

And, of course, technology is taking place. This Trend occurs at the intersection of technology and the protection of human rights.

Increased Social Unrest

The connections

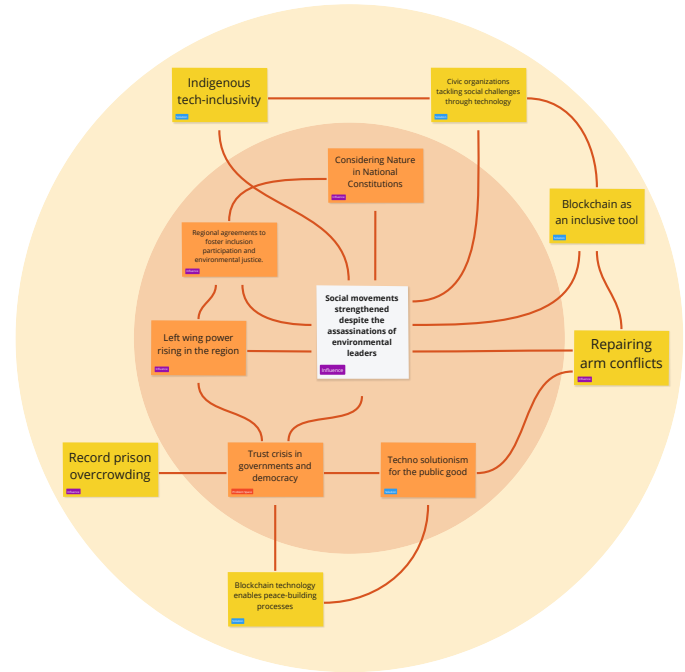
Why does it Matter?

The region is experiencing social movements that have been asleep for decades. Web3 technologies can help critical social processes evolve orderly and sustainably while guaranteeing human rights.

The Ezcasú agreement is unique in its class. With 13 signatory countries, it is the first environmental treaty that facilitates access to information, public participation, and access to environmental justice in Latam. Can Web3 technologies have a positive impact on its implementation?

In Chile, a new constitution is being written where nature is at the centre, and social movements are called to participate. How can Web3 technologies make this possible?

At the same time, an Ethereum-based platform was created in Colombia to make land restitution processes safer and more transparent. As social movements unfold, the role of Web3 technologies and their risks and potential impacts are yet to be seen.



Increased Social Unrest

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

Social movements strengthened despite the assassinations of environmental leaders

Evidence

- [How to understand the wave of murders of social Leaders in Colombia during the pandemic?](#)
- [Colombia and Mexico, the countries in the world where more environmental leaders are killed](#)
- [Latin America remains the most dangerous region for environmental defenders](#)

Techno solutionism for the public good

Evidence

- [Privacy, Security, Citizen Rights and Transparency in Web 3.0](#)
- [Little known uses of Blockchain in Latin America](#)
- [The UNICEF supports startups developing open-source, blockchain-based solutions](#)
- [CoronaApp does not work, nor will it work](#)

Trust crisis in governments and democracy

Evidence

- [Social crisis in Ecuador](#)
- [Uncertainty on vote counting for presidential elections in Colombia](#)
- [Decolonize Data](#)

Regional agreements to foster inclusion participation and environmental justice

Evidence

- [Acuerdo de Escazú](#)
- [Latin America demands climate justice](#)

Considering Nature in National Constitutions

Evidence

- [A new ecological Constitution for Chile and its effect on international environmental constitutionalism](#)
- [The draft of the new Constitution, the great "best-seller" in newsstands in Chile](#)
- [The right to the environment in the New Political Constitution of the Plurinational State of Bolivia](#)

Left wing power rising in the region

Evidence

- [Left-wing political victories across LatAm a sign of US repudiation](#)
- [Latin America looks to a new left](#)
- [Colombia's shift to the left: A new 'pink tide' in Latin America?](#)
- [Leftist Leaders Rise in Latin America Amid Widespread Economic Distress](#)

Increased Social Unrest

The Signals

 Pivotal Signal  Strong Signal  Weak Signal

Blockchain technology enables peace-building processes

Evidence

- [This is how Blockchain is used to guarantee land restitution](#)
- [Government of Colombia presents pilot of land registration in Ethereum](#)
- [Blockchain technology is incorporated into the world of arbitration to resolve conflicts](#)

Record prison overcrowding

Evidence

- [Imprisonment exceeded 1.7% of the population by exception regime](#)
- [El Salvador: President Bukele engulfs the country in a human rights crisis after three years in government](#)
- [Christian Alveal: "The State does not have enough resources" to end prison concessions](#)

Repairing arm conflicts

Evidence

- [Armed conflict in Colombia left some 800 thousand dead: Truth Commission](#)
- [ELN announces intention to "advance" in a peace process as long as Petro does not do "more of the same"](#)

Indigenous tech-inclusivity

Evidence

- ['Allinllachu': Google Translate Adds Quechua to Its Platform](#)
- [Google Translate adds 24 new languages, including its first indigenous languages of the Americas](#)
- [Quechua, Aymara and Guarani are already in Google Translate, but is it enough?](#)

Civic organizations tackling social challenges through technology

Evidence

- [Connecting The Dots: Intelligence On The Ground To Solve Social Problems](#)
- [Artificial Intelligence for social good in Latin America and the Caribbean](#)

Blockchain as an inclusive tool

Evidence

- [Women invited to transform Latin America with Blockchain](#)
- [This 'crypto' settles the financial exclusion of coffee producers in Mexico and helps export their 'black gold'](#)



Trend

Nationalizing Crypto

Description

After El Salvador, some other Latin American countries are exploring Bitcoin as an alternative to the hegemonic weight of the dollar and their own weak currencies.

The economic instability and difficult access to traditional banking services in the region have been a catalyst for cryptocurrencies. Remittances, hyperinflation, international debts, lack of opportunities, and poor financial inclusion make cryptocurrencies gain traction across various sectors of society.

Governments are making various attempts to find alternatives to deal with these problems, receiving criticism from specific international organizations and investors.

The challenge often seems to find the right balance between implementing regulations without slowing innovation.

Nationalizing Crypto

The connections

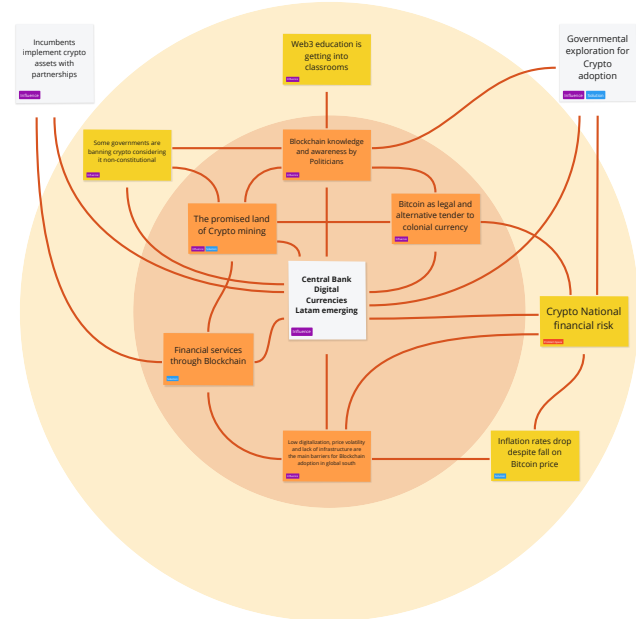
Why does it matter?

Countries in the Global South are starting to see crypto alternatives as allies to help solve some of their problems.

Venezuela and El Salvador are the countries with the most aggressive measures in terms of crypto adoption. In Venezuela, the cryptocurrency Petro was created; this state-regulated cryptocurrency is backed by natural resources, particularly oil and diamonds, as an alternative measure to counter hyperinflation.

In Chile, a digital currency managed by the government, similar to the Petro, is being proposed.

Whether state-sponsored cryptocurrencies or the legalization of existing ones, crypto seems to be grounding itself in the region.



Nationalizing Crypto

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

Central Bank Digital Currencies Latam emerging

Evidence

- [More than 26 thousand Petros available to Maduro for the creation of communal banks in Venezuela](#)
- [The technology of retail central bank digital currency](#)
- [Report assures that the Petro is more popular than Bitcoin in Venezuela](#)

Blockchain knowledge and awareness by Politicians

Evidence

- [The phrases about bitcoin by Gustavo Petro and Rodolfo Hernández, candidates in Colombia](#)
- [Indira Kempis presents bill to make bitcoin legal tender in Mexico](#)
- [U.S. senators unveil bill to regulate cryptocurrency](#)

Financial services through Blockchain

Evidence

- <https://tropykus.com>
- [Wayniloans is a P2P lending platform with bitcoins](#)
- <https://paxful.com/>
- <https://p2p.binance.com/en>

Bitcoin as legal and alternative tender to colonial currency

Evidence

- [Bitcoin becomes official currency in Central African Republic](#)
- [Cryptocurrencies essential in the fight against sanctions on Venezuela](#)
- [El Salvador's minister dismisses Bitcoin crash despite 50% loss in reserves](#)
- [HE Anniversary of El Salvador's Bitcoin legal tender announcement](#)

Low digitalization, price volatility and lack of infrastructure are the main barriers for Blockchain adoption in global south

Evidence

- [What will the crypto crash mean for 'bitcoin nation' El Salvador?](#)
- [Will bitcoin succeed in the Central African Republic? Probably not](#)
- [The companies powering El Salvador's new bitcoin economy](#)

Inflation rates drop despite fall on Bitcoin price

Evidence

- [El Salvador improves in the inflation index despite the fall of bitcoin](#)
- [Inflation and Bitcoin: Understanding the Dynamics](#)

Nationalizing Crypto

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

The promised land of Crypto mining

Evidence

- [Latin America, the next cryptocurrency mecca?](#)
- [The current global state of crypto mining and the role of Latin America](#)
- [Bitcoin \(BTC\) mining growth in Latin America is exponential](#)
- [Latin America's bad reputation keeps Bitcoin miners away but it's a trap](#)
- [Bitcoin mining has a new home in Latin America](#)
- [Bitcoin mining: Is Latin America poised to lead the market?](#)

Web3.0 education is getting into classrooms

Evidence

- [Professionals to teach about bitcoin](#)
- [Bitcoin in classrooms in Argentina](#)
- [Bitget to offer free bitcoin technical analysis course for Latin America](#)
- [El Salvador inaugurates "La Casa del Bitcoin" educational centre](#)

Crypto National Financial risk

Evidence

- [Crypto crash leaves El Salvador with no easy exit from worsening crisis](#)
- [El Salvador buys bitcoin for 1.45 million euros in the midst of 'cryptowinter'](#)
- [Salvadorans say that Bitcoin did not benefit their family economy](#)
- [IMF: Bitcoin as legal tender is a \(very\) risky business](#)
- [El Salvador's minister dismisses Bitcoin crash despite 50% loss in reserves](#)
- [What will the crypto crash mean for 'bitcoin nation' El Salvador?](#)

Some governments are banning crypto considering it non-constitutional

Evidence

- [Why Nigeria may not adopt Bitcoin as legal tender](#)
- [Crypto buyers in emerging economies find themselves caught between a rock and a hard place](#)



Trend

New technology, same crimes

Description

Cybercrimes, scams, and other frauds related to Web3 technologies are skyrocketing. Taking advantage of most citizens' financial and technological illiteracy, criminals invent all sorts of creative scams that are destroying Web3's reputation.

Most frauds involve social engineering, intermediation for no tech users, and even pyramid schemes. All of them come and go continuously.

Unfortunately, criminality is the never-ending Trend in Latin America. It is only a matter of time before criminals find new ways to use technology to their advantage. Web3 technologies seem to be no exception to this general rule.

New technology, same crimes

The connections

Why does it matter?

Technology moves pretty fast, and so does crime. As the Latam region experiments with Web3 technologies, many solutions can arise to help solve critical problems. However, this also means that new forms of crime will eventually make their way.

Governments need to seriously take into consideration what the risks are to guarantee the rule of law. Clear laws around important topics like data privacy, money laundering, and the protection of crypto users are just some aspects that need to be considered to guarantee institutions that work.

Understanding where cybercrime is headed becomes necessary not only to guarantee a working system within Latam countries, but also to guarantee their place in the global order.



New technology, same crimes

The Signals

● Pivotal Signal ● Strong Signal ● Weak Signal

Crypto scams under technological, legislative and tax flaws

Evidence

- [BAYC and Otherside discord groups were breached, over 145 ETH stolen](#)
- [Cryptoactive regulatory body in Venezuela denounces scams to users with Petro outside of its authorized platforms](#)

Lack of legal protection for cryptousers

Evidence

- [Colombians denounce Binance for freezing their accounts with bitcoins](#)
- [Latam: Crypto clipping, an attack that spreads](#)
- [Celsius stops withdrawing money to "protect its users" CeFi in danger?](#)

Criminality in the Blockchain

Evidence

- [A 23-year-old Venezuelan allegedly steals \\$1 million in BTC from his clients after faking a kidnapping](#)
- [Reuters: "Binance became a hub for drug dealers, scammers and hackers"](#)
- [What the 'Pandora Papers' Mean for Bitcoin](#)

Regulations in the way for crypto

Evidence

- [Latam Fintech Regulation](#)
- [Parliamentarian has presented a proposal for a bill to regulate cryptocurrencies in Peru](#)
- [Colombia: They approve the first project debate to regulate cryptocurrencies](#)

Financial services through Blockchain

Evidence

- <https://tropykus.com>
- [Waynloans is a P2P lending platform with bitcoins](#)
- <https://paxful.com/>
- <https://p2p.binance.com/en>

New legal players to enable Web3

Evidence

- <https://zircon.tech>
- [ZirconTech Blockchain technology for Legaltech in Latin America](#)
- [Computer legislation of multiple countries](#)
- [Law, technology and innovation](#)
- [Are You Ready for Web3.0 and the Legal Issues it Will Bring?](#)

3. Findings & Recommendations

Conclusion

It is hard to reduce to a few lines all the systemic change happening in Latin America.

As we mentioned at the beginning of this report, Latin America is driving the adoption of many emerging Web3 technologies because these could potentially address accusing problems in our territories.

In the following pages, we share some of our highlights.

Legal & Regulatory Findings and recommendations

- There is much talk about cryptocurrencies, but one of the most urgent but least considered pieces of legislation in the Blockchain environment is related to its use to support food security in the region. We recommend that increasing efforts on this front should be priority number one.
- A tokenised economy allows multiple actors to receive monetary incentives (tokens) to achieve transformations under the logic of current socio-technical systems, such as global capitalism. Adequate regulation should incentivise the flow of tokens/capitals (incentives) and talent to develop Web3 solutions focused on energy transition, environmental protection, human rights and territorial regeneration.
- The speed of Web3 development, and especially its decentralised growth, presents a massive challenge for policymakers and public institutions. We recommend creating specialised research units under decentralised cooperation frameworks at national and international levels to keep public institutions at the forefront of Web3 developments.
- As we have already seen, the snowball effect generated by the expansion of Web3 will mean that sooner or later, big players in all industries and territories will be forced to implement some layer of Web3 or suffer some level of obsolescence. Governments must to be vigilant in responding to these processes and avoid all attempts to concentrate too much power, as seen in Web2.
- Understanding and learning about the experiments that countries in the Global South (El Salvador and the Central African Republic) are having legalising crypto assets and how they affect the economy, in general, will be crucial to building a legal framework that favours all those involved.

Economic Findings and recommendations

- Latin America has abundant traditional and renewable energy resources. The region has the potential to become a crucial player in cryptocurrency mining, but above all, in maintaining the security of the Bitcoin network and other tokens that prove to be relevant.
- The governments of Latin America that most quickly understand and internalise the potential of Bitcoin as a commodity, a perfect form of scarcity, and digital money will be able to benefit from the economic effects established by the Bitcoin protocol. This new mindset will create fertile soil for all sorts of Web3 innovations.
- Given the growing adoption of Web3 tools in Latin America, the price of Bitcoin and its market capitalisation, as well as that of other crypto assets, will fluctuate firmly anchored to the behaviour, adoption and stability of these markets and others in the Global South.
- The adoption of decentralised Web3 technologies by ordinary citizens represents a challenge due to the low financial and technological education levels in most Latin American territories. Non-technological options should be explored creatively, such as banknotes backed in Bitcoin, as was the case with gold in past decades.
- The future of the Blockchain industry is unclear. Still, under current environmental, economic and technological pressures, and thanks to Web3 tools, the first forms of true productive decentralisation are successfully emerging, potentially affecting contemporary economic logic in Latin America.

Ethical Findings and recommendations

- Different political, business and philosophical views establish their codes of ethics and conduct based on their interests and a more comprehensive understanding of the externalities of their actions. Web3 is at the centre of the ethical debate. What is the proper moral framework for the Blockchain? Are they ideally Universal principles like transparency and privacy? Or, on the contrary, do they contemplate particularities such as, for example, the ancestral wisdom of the Latin American peoples? These questions remain open.
- Some Latin American countries recognise nature as a subject of rights in their constitutions. It is advisable to spread these practices to other countries, organisations and ethical frameworks so that the new Web3 developments have an approach toward a planet-centred design.
- One of the severe threats to the autonomy of territories and people in Latin America is the Global North's central bank digital currencies (CBDC), which, following the colonial tradition, can become instruments of domination of the peoples of the South. The same occurs with the initiatives of some Latin American countries in this direction, where economic elites and corrupt governments could turn them into tools for the surveillance, control and subjugation of their citizens. Despite the ethical frameworks or promises established at the beginning of the release of these CBDCs, they can change with time or under emerging pressures by the government in charge.

Environmental & Social Findings and recommendations

- All Latin American governments must provide resources and tools to communities and social leaders who are guardians of the territory, and Web3 has an excellent framework for action on this front. It is crucial to offer support but guarantee privacy to avoid their data and their family members falling into the wrong hands. We must protect them at all costs avoiding the persecutions and massacres we have witnessed.
- Web3 could help an emerging collaborative and distributive model for complementing and developing existing energy systems, providing token-type incentives to decentralised participants.
- Bitcoin has been heavily criticised for its energy consumption. Yet, it is one of the world's most transparent industries in energy consumption and the most active in implementing renewable energy sources compared to other traditional industries, such as banking or the military-industrial complex. Bitcoin is relevant for the energy transition; its protocol offers a strong economic incentive to implement clean, cheap and efficient energy sources (maximising profits from the mining process). This is precisely the kind of incentives that the world's biggest polluters require, which must abandon profitable but polluting traditional energy sources under a capitalist vision.

Education & Cooperation

Findings and recommendations

- Both high-tech and sustainability are broad and highly complex issues. However, regional governments must invest more resources in reconciling these two fronts to create a new workforce to bring prosperity, food security, regenerate territories and create an economic base leveraged by knowledge.
- Under a new regional agenda, investing resources for education in new technologies and new forms of relationships with mother earth is vital. This will favour adopting and establishing a new democratic and respectful set of values for human and non-human actors in the systemic web of life. We must evolve from ego-systemic to eco-systemic thinking, and the decentralised nature of Web3 might help achieve it.
- Local communities can use Web3 technologies to find solutions using a bottom-up and decentralised approach. Although just an emerging opportunity, Web3 technologies could connect, scale and support social and environmental struggles protecting the rights of indigenous, social and eco-feminism movements.
- The entrepreneurial innovation ecosystem around Web3 has taken lessons from past Web2 experiences, such as those of Uber and similar collaborative economy platforms. Companies, startups and governments are working together to address the emerging complexity, protecting national interests and citizens without limiting innovation and the potential of the technology.

4. List of Signals

Pivotal Signals

Hyper-connected signals

Solutions

Territorial regeneration through Blockchain technology

[Blockchain](#)

Governmental explorations of Web3 technologies

[Blockchain](#) [Web3](#)

Measurement, reporting and verification (MRV) through Blockchain

[Blockchain](#)

Clean agro production powered by advanced technology

[Blockchain](#)

Influences

Governmental explorations of Web3 technologies

[Blockchain](#) [Web3](#)

Principles and values are being developed for a digital society in the region

[Blockchain](#)

Central Bank Digital Currencies Latam emerging

[Blockchain](#)

Incumbents implement crypto assets with partnerships

[Blockchain](#)

Social movements strengthened despite the assassinations of environmental leaders

[Blockchain](#)

Value Chain Disruptions

[Blockchain](#) [Digital Assets](#)

Problem spaces

Emerging Normative Tension in the Region

[Blockchain](#) [Digital Assets](#)

Value Chain Disruptions

[Blockchain](#) [Digital Assets](#)

Crypto scams under technological, legislative and tax flaws

[Blockchain](#) [Digital Assets](#)

The Solutions

Signals that are resolving problems

Sensors and data for urban regeneration	Tokenization of communities and agricultural commodities	Blockchain enabling the circular economy	Alternative food design for sustainability	P2P Crowdfunding in food production	Blockchain enabling cannabis business	Intelligent tracking for responsible material sourcing	Governmental exploration for Crypto adoption
IoT and data for sustainability	Distributive sustainable micro grids plugged to central public grid	Blockchain facilitates renewable energy certificates (RECs)	Water vigilance through technology	Emerging Crypto Taxation	Incentives and market development for nature compensation	Carbon Offset market growing	Asserting the community to social and environmental change
Use of geothermal and alternative energy to mine Bitcoin	Sustainable distributive Coliving through Blockchain	Blockchain technology enables peace-building processes	Blockchain technology enabling peace/ community building processes	Materials tracking for responsible material sourcing	Inflation rates drop despite fall on Bitcoin price	Financial services through Blockchain	Public strategies advancing toward more agile governments through AI
Blockchain governance	Indigenous tech-inclusivity	Civic organizations tackling social challenges through technology	Blockchain as an inclusive tool	Techno solutionism for the public good	Conflict resolution using Bitcoin	The promised land of Crypto mining	Crypto Cities are being envision by governments
							Regulations in the way for crypto

The Influencers (1)

Signals that influence other signals

Governmental exploration for Crypto adoption Reference Source	Blockchain knowledge and awareness by Politicians Reference	Wide adoption of crypto in the global south despite legal national constrictions Reference	Regulation of privacy over private keys is being explored Reference	Web3.0 education is getting into classrooms Reference	Explorations on the metaverse Reference
Asserting the community to social and environmental change Reference Source	New constitution are being changed with nature in the center Reference	Growing lightning network in global south Reference	Connecting private and public data for contributing to the Paris Agreement (Nationally Determined Contribution - NDC) Reference	In depth research about tech and climate from international Cooperation in Latam Reference	
Public strategies advancing toward more agile governments through AI Reference Source	Global Climate tech entrepreneurship is on the rise Reference	Regional agreements to foster inclusion participation and environmental justice Reference	Clean energy financing with Blockchain technology Reference	Social movements strengthened despite the assassinations of environmental leaders Reference	
Crypto Cities are being envision by governments Reference Source	The promised land of Crypto mining Reference Source	Left wing power rising in the region Reference	New legal players to enable web3.0 Reference	NFT explorations in Latam Reference	
Regulations in the way for crypto Reference Source					

The Influencers (2)

Signals that influence other signals

<p>Record prison overcrowding</p> <p><small>Latam</small></p>	<p>IoT exploration Latam</p> <p><small>Latam</small></p>	<p>Repairing arm conflicts</p> <p><small>Latam</small></p>	<p>Lack of legal protection for cryptousers</p> <p><small>Latam</small> <small>ResearchGate</small></p>	<p>Increased efforts to guarantee food supply</p> <p><small>Latam</small> <small>ResearchGate</small></p>
<p>Low digitalization, price volatility and lack of infrastructure are the main barriers for Blockchain adoption in global south</p> <p><small>Latam</small></p>	<p>Venture Capital for startups rising</p> <p><small>Latam</small></p>	<p>Considering Nature in National Constitutions</p> <p><small>Latam</small></p>	<p>Crypto Fiscal Paradise</p> <p><small>Latam</small> <small>ResearchGate</small></p>	<p>Regulation/management of privacy issues</p> <p><small>Latam</small> <small>ResearchGate</small></p>
<p>Some governments are banning crypto considering it non-constitutional</p> <p><small>Latam</small></p>	<p>Bitcoin as legal and alternative tender to colonial currency</p> <p><small>Latam</small></p>	<p>Venezuela tries to bypass US sanctions using their national crypto</p> <p><small>Latam</small></p>	<p>Local autonomous currencies in risk but resisting in Latam</p> <p><small>Latam</small> <small>ResearchGate</small></p>	<p>Democratic risk (institutional mistrust, cybersecurity)</p> <p><small>Latam</small> <small>ResearchGate</small></p>
<p>Web3 education is getting into classrooms</p> <p><small>Latam</small></p>				

Problem Spaces

Signals that could be opportunities

Increased efforts to guarantee food supply

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Lack of legal protection for cryptousers

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Deforestation, the main enemy for nature in the region

[View Article](#)

Crypto National financial risk

[View Article](#)

Regulation/management of privacy issues

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Crypto Fiscal Paradise

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Conflicting regulatory landscapes between traditional finance and DeFi

[View Article](#)

Job crisis in the crypto industry

[View Article](#)

Democratic risk (institutional mistrust, cybersecurity)

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Local autonomous currencies in risk but resisting in Latam

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Criminals doing money laundering with crypto assets

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Trust crisis in governments and democracy

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Criminality in the Blockchain

[View Article](#)

Tech faster than the Law

[View Article](#)

5. Definitions

Definitions

- **Bitcoin:** The bitcoin (lower case) is the unit of account (cryptocurrency) of the Bitcoin protocol (upper case). This concept is a replicated database distributed among thousands of nodes which are incentivised with new bitcoins for keeping the database up to date and providing it with the highest possible security. It has a limited issuance of 21 million bitcoins, whose production is reduced every four years.
- **Blockchain:** A distributed database that allows digital money to be securely exchanged on the internet using cryptography.
- **Circular economy:** It is a model of production and consumption which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible. In this way, the life cycle of products is extended. In practice, it implies reducing waste to a minimum.
- **Cloud:** The cloud is a virtual space that exists on the internet. It is a storage space where people can place their digital resources such as software, applications and files.
- **Crypto:** Short version of "cryptocurrency", which is typically decentralised digital money designed to be used over the internet. Bitcoin, launched in 2008, was the first cryptocurrency. Other cryptocurrencies like Ethereum have grown as another digital alternative to money issued by governments.
- **DAO:** Decentralised Autonomous Organization (DAO). Inspired by the decentralisation of cryptocurrencies, a group of developers came up with this idea in 2016. It is an entity with no central leadership. Decisions get made from the bottom-up, governed by a community organised around a specific set of rules enforced on a blockchain. DAOs are internet-native organisations collectively owned and managed by their members. They have built-in treasuries that are only accessible with the approval of their members. Decisions are made via proposals the group votes on during a specified period.
- **DeFi:** Decentralised finance (DeFi) is an emerging financial technology based on Blockchain. The system removes banks and institutions' control over money, financial products, and financial services.
- **Global South:** The concept of Global South is used to identify regions within Latin America, Asia, Africa, and Oceania. It refers to the resistant imaginary of a transnational political subject resulting from a shared subjugation experience under contemporary global capitalism.
- **IoT:** Internet of Things (IoT), refers to the collective network of connected devices and the technology that facilitates communication between devices and the cloud, as well as between the devices themselves.
- **Latam:** short for Latin America.

Definitions

- **NFT:** Non-fungible token (NFT) is a unique cryptographic identifier/token that exists on a blockchain and cannot be replicated. It is used to certify the authenticity and ownership of a specific digital asset and its specific rights. NFTs can represent real-world items like artwork and real estate. "Tokenising" these real-world tangible assets makes buying, selling, and trading them more efficient while reducing the probability of fraud. NFTs can also function to represent individuals' identities, new property rights, and more.
- **Metaverse:** The metaverse is a network of virtual worlds where users can interact with other humans and other virtual characters in a computer-generated environment. In the metaverse, people have provably ownership over digital assets, creating a networked society where digital items can be scarce and therefore valuable.
- **Protocol:** Protocols are basic sets of rules that allow data to be shared between computers. For cryptocurrencies, they establish the structure of the Blockchain.
- **Sustainability:** Developing human communities so that their lifestyles, businesses, physical structures and technology do not interfere with nature's inherent capacity to regenerate and sustain life on the planet.
- **Tokenisation:** Within the context of blockchain technology, tokenisation is the process of converting something of value into a digital token that is usable on a blockchain application. Assets tokenised on the Blockchain come in two forms. They can represent tangible assets like gold, real estate, and art, or intangible assets like voting rights, ownership rights, or content licensing.
- **Web 3:** A new iteration of the World Wide Web which incorporates concepts such as decentralisation in the form of distributed ledger technologies and token-based economics.
- **Web 3.0:** refers to the Semantic Web, an extension of the existing World Wide Web, which provides software programs with machine-interpretable metadata of the published information and data. It adds further data descriptors to existing content and Web data to make Internet data machine-readable.

6. Acknowledgements

Credits

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The adventure continues... ⚡

Pluriversa

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