LATIN ADVISORS

UNDER THE SPOTLIGHT

BLOCKCHAIN, CRIPTO, DeFi & OTHERS

BLOCKCHAIN

Blockchain is a digital system that enables secure transactions with no intermediary. The history of data and transactions can never be removed or modified, so this technology presents an immutable record and is permanently available to everyone.

The participants in the system include:

The **blocks**, where each one represents a transaction that is linked and secured using cryptography. Cryptography is a process of encrypting text to generate a encode that is unreadable except to those who possess the specific decryption key. With this science, information can be protected and the network becomes more secure; where the level of encryption will depend on the degree of protection required for the data.

The **miners**, are in charge of validating, confirming, and processing all transactions and then distributing them to the nodes that make up the network.

The **nodes** are dedicated to storing and distributing an updated copy of the blockchain, allowing each new block that is confirmed to be added to the network and the copy that each node stores.

Characteristics of Blockchain technology

Consensual verification

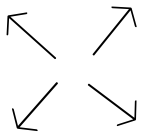
The network participants share the same documentation, which can only be updated by consensus.

Inalterable

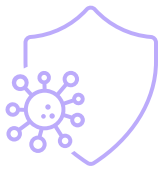
Asset accounting and trackability are unique and last for the entire life of the asset. In turn, once a block is closed, it cannot be modified.

Decentralized

A distributed network optimizes transparency, eliminates intermediaries, reduces costs and optimizes time.



Safe



Consensual verification, decentralization, and immutability form an obstacle for those who want to act in bad faith.

https://ethereum.org/en/whitepaper/
https://bitcoin.org/bitcoin.pdf
https://coinmarketcap.com/crypto-heatmap/

HOW BLOCKCHAIN WORKS

Blockchain, unlike other databases that use tables as the main source, structures the information in linked blocks. Each block stores a set of data that when filled is linked to the previous block to form a chain. When a block is filled it cannot be altered, and the information stored in the network will depend on the purpose for which it was created.

There are three segments of adoption depending on the disruption of transfer networks:

Financial Systems

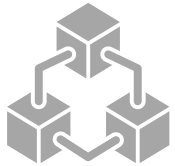
Disruption of the transfer of value from its purest forms (e.g. Bitcoin) to more established financial networks such as insurance, lending, and consumer finance.

VALUE TRANSFER

Faster and safer transactions than in traditional finance, lower cost, greater accessibility and operational simplification.

Corporate Blockchain

Impact of blockchain on the transfer of goods and services, both physical and digital.

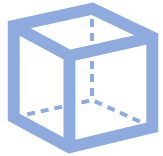


TRANSFER OF GOODS, SERVICES AND DATA

It optimizes business processes and data management, improves security, and minimizes or eliminates intermediaries in the enterprise.

Tokenized Assets

They represent the frontier and the next step in blockchain development.



TRANSFER OF PHYSICAL ASSETS

Increases liquidity, transparency, and accessibility. Faster and lower-cost transactions than traditional ones.

CONSENSUS METHODS

Who decides what is written on a blockchain? Who validates transactions on a blockchain network?

Each Blockchain network chooses how it will decide which transactions to write, using consensus methods.

These are processes that seek to reach an agreement between the different participants of the network, about the transactions that are going to be written in the chain.

They are responsible for ensuring that all blocks on the chain have the same data, thus avoiding manipulation and ensuring the validity of transactions. There are three consensus mechanisms:

Proof of Work (PoW): The method consists in solving complex cryptographic mathematical equations using computing power to validate transactions. To begin with, a block is created with certain information:

- Address of the previous block
- Transactions to be included in the block
- Nonce: This is an arbitrary number that can only be used once in cryptographic communication and is used as an authentication protocol. A random value is entered in this field so that with each different value, the block changes despite having the same transactions.

The network allows the creation of the next block to the miner who can find the correct hash, so competition is high. The hash is a function that fulfills the encrypted demands necessary to solve a blockchain calculation that serves to verify the integrity of the messages and authenticate the information. Any computer using the network can validate that the hash is correct in a fraction of the time it takes to "mine" (build) it, thus ensuring the validity and receiving cryptocurrencies as a reward. This is the method used by Bitcoin and Ethereum.

Proof of Stake (PoS): In this method, miners provide part of their equity as collateral, and the more they have, the more chances they have to be chosen to validate the transaction. In this mechanism there are two types of blocks:

- Regular: they store a copy of the chain and are the ones that can be queried.
- Validators

Miners are randomly chosen to validate the blocks, thus removing the competition that exists in PoW. The reward becomes a guarantee of the validator's good faith and is valued according to what is offered. This method is used by Cardano, Solana, and Tezos.

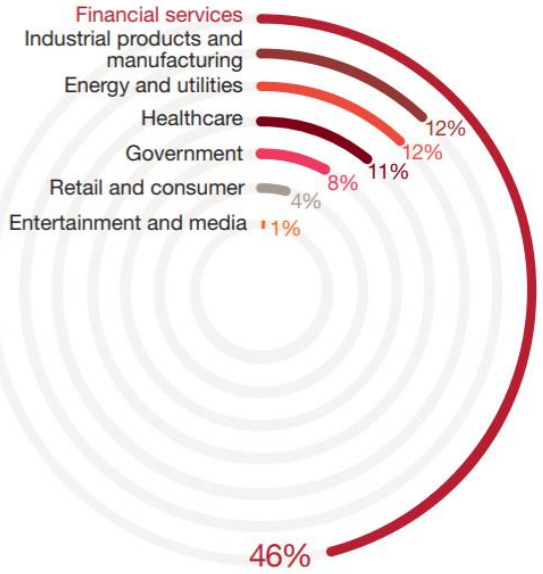
Proof of History (PoH): This method requires a specific number of sequential steps to evaluate but produces a single result that can be verified efficiently and publicly. It creates a historical record with accurate timestamps of everything that happens in the chain, from its origin to the current time. After recording a transaction, the output of the transaction becomes the input of the next transaction. PoH is not a consensus method per se but combines the PoS method to improve the transaction order confirmation time. The method aims to speed up the consensus process by providing a means to encode the time itself in the blockchain.

BLOCKCHAIN TYPES

PUBLIC: It is decentralized and has no single entity controlling the network. Anyone can join the network and participate in the blockchain.

PRIVATE: They operate based on access controls that restrict the people who can participate in the network, and only those who participate will have knowledge of the transactions that are made.

Industries that could be considered future leaders in Blockchain



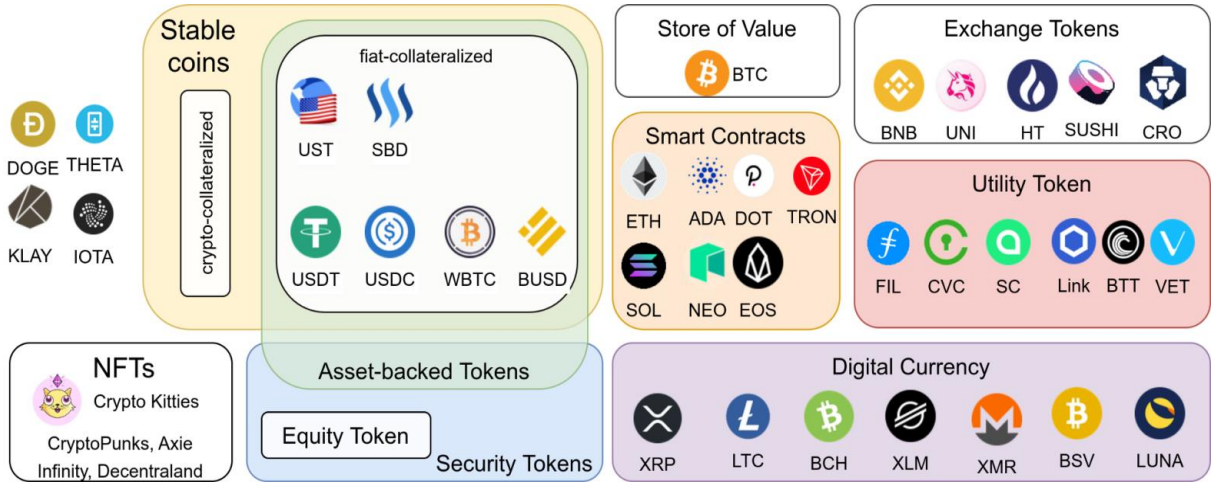
Note: Base: 600.
Q: Which of the following industries are the most advanced in developing blockchain today?
Source: PwC Global Blockchain survey, 2018

MAIN FINANCIAL ASSETS IN BLOCKCHAIN

- **DIGITAL ASSETS:** Non-tangible resources that are created, traded and stored digitally.

- **CRYPTOACTIVES:** Digital media that use cryptography to secure financial transactions, including:

  - Cryptocurrencies
  - Digital tokens
  - Stablecoins



MAIN CRYPTOASSETS IN THE BLOCKCHAIN ECOSYSTEM

- **CRYPTOCURRENCIES:** These are virtual currencies that use digital encryption for their operations and are the native asset of a Blockchain. With them, economic transactions can be carried out without the need to go through a financial institution as an intermediary to verify their authenticity. They are currencies that are not regulated or controlled by any institution, and that is the main challenge they present.

The need for cryptocurrencies in a blockchain network

Cryptocurrencies were created as a payment method for the participants of each public blockchain. Their work within each blockchain network is remunerated with a specific cryptocurrency depending on the interests of the chain.

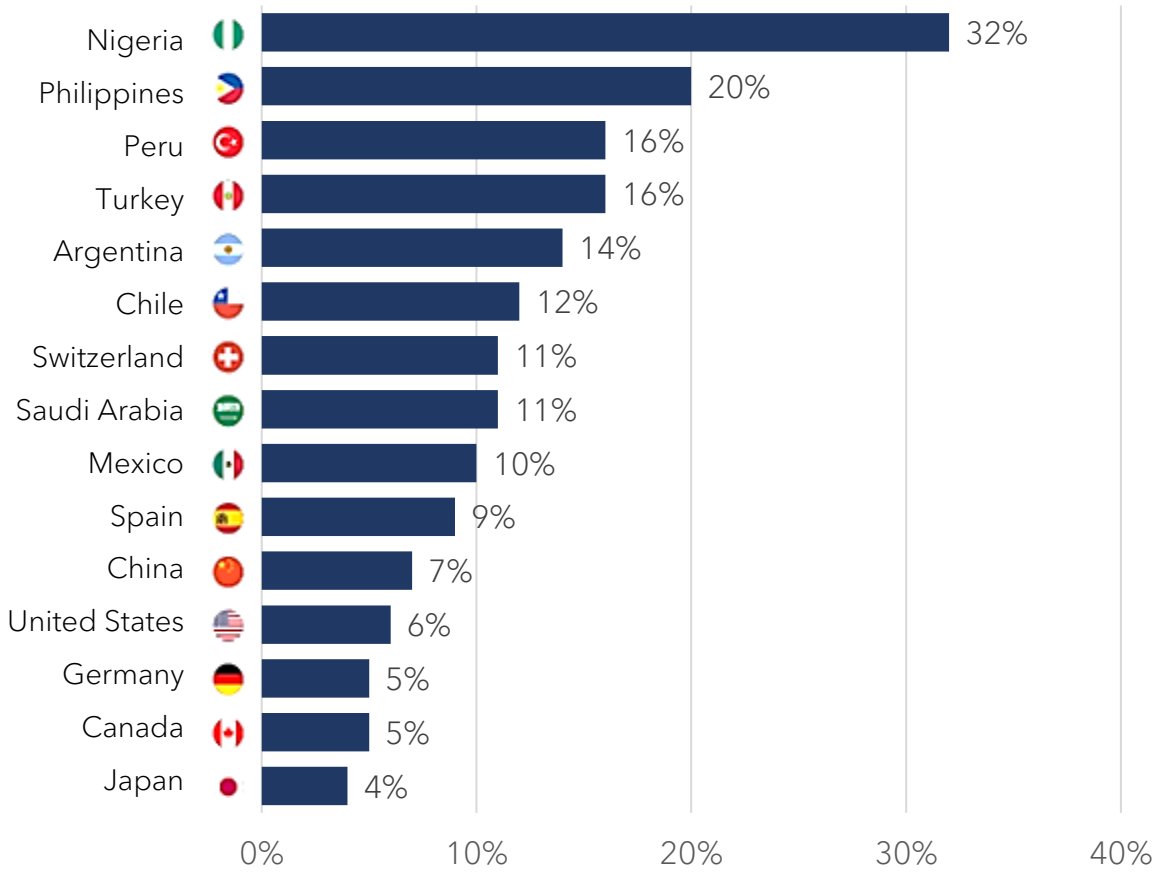
Therefore, cryptocurrencies will exist as long as blockchain technology exists.

A public Blockchain cannot exist without cryptocurrencies

In the future, cryptocurrencies could increase access to financial services for the non-banked population.

Around 30% of the world's population has an unbanked society, so the dynamics of cryptocurrencies could help cover a larger part of the population.

How common are cryptocurrencies in the world?



Source: Statista

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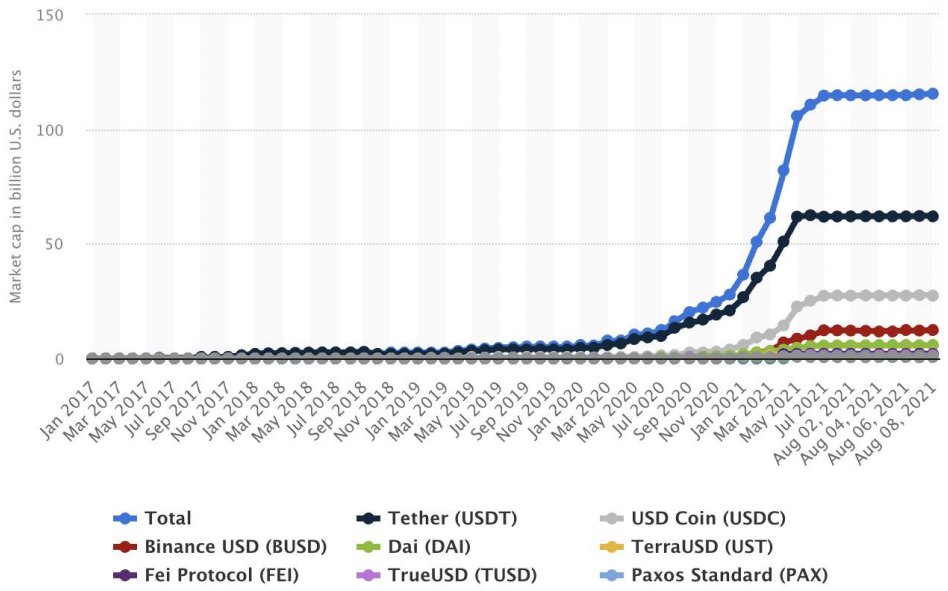
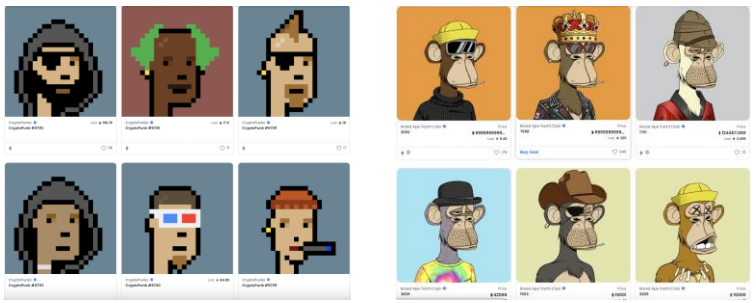
MAIN CRYPTOASSETS IN THE BLOCKCHAIN ECOSYSTEM

- **TOKENS:** A token is a digital asset that is created as part of a platform that is built on a blockchain. They are units of value that organizations or projects based on a blockchain develop. The difference with cryptocurrencies is that tokens do not have their own blockchain and cryptocurrencies do. In turn, a token can be created to represent any "thing" in the real world, a house, a company stock, a collectible. Translated with www.DeepL.com/Translator (free version)

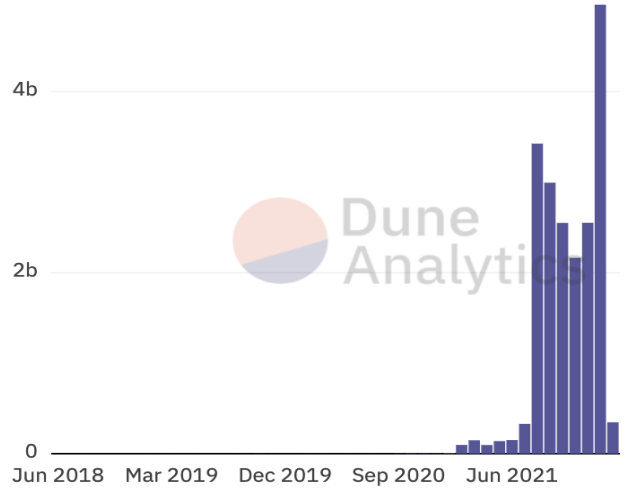
- **NFTs:** Known as non-fungible tokens, they are digital assets that are stored on a blockchain. Non-fungible in this case means that it is a unique asset and cannot be replaced by something else. For example: a dollar is fungible: there are many one-dollar bills, and they all represent the same thing. Whereas an NFT is like a collectible card and is one of a kind. The most common use today is linked to art, but they have many possible applications (intellectual rights, commercial rights, titles, etc.).



Examples of NFT projects
(valued in millions of USD per project)



OpenSea is the leading NFT marketplace and operates on multiple blockchains
OpenSea monthly volume



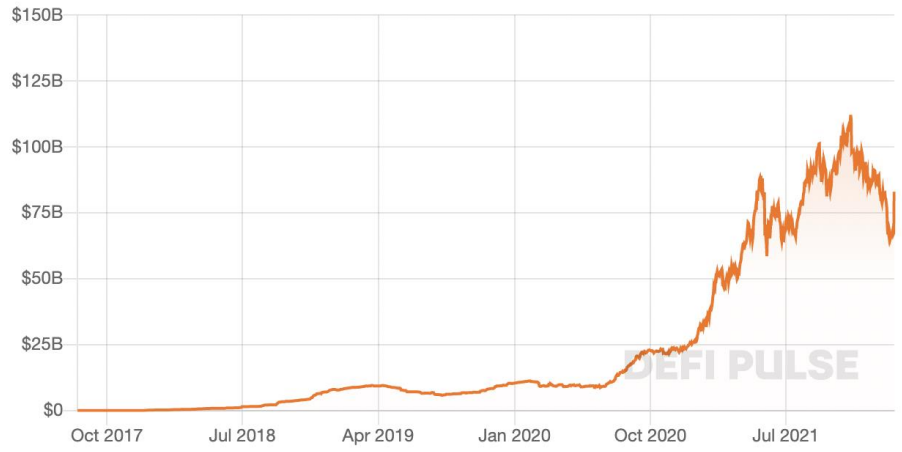
https://dune.xyz/rchen8/opensea
https://opensea.io/
https://coinmarketcap.com

MAIN CRYPTOASSETS IN THE BLOCKCHAIN ECOSYSTEM

- **DeFi:** is the part of the cryptoasset ecosystem relating to decentralized finance. Decentralization is when a system has no central authority figure. It includes lots of products and services and is a growing alternative to traditional finance (TradFi).

- Among them are payment products/services, infrastructure, KYC, insurance, exchanges and custody services.

Total value linked to DeFi
(on all existing blockchain)



- **STABLECOINS:** A token that is associated with a stable asset, such as the dollar or gold. They can be centralized (issued by an entity that has controls over them) or decentralized (managed by independent algorithms).

Stablecoins can be used as a method of exchange like any currency. In addition, they are used within the ecosystem in times of volatility as a safe haven asset.

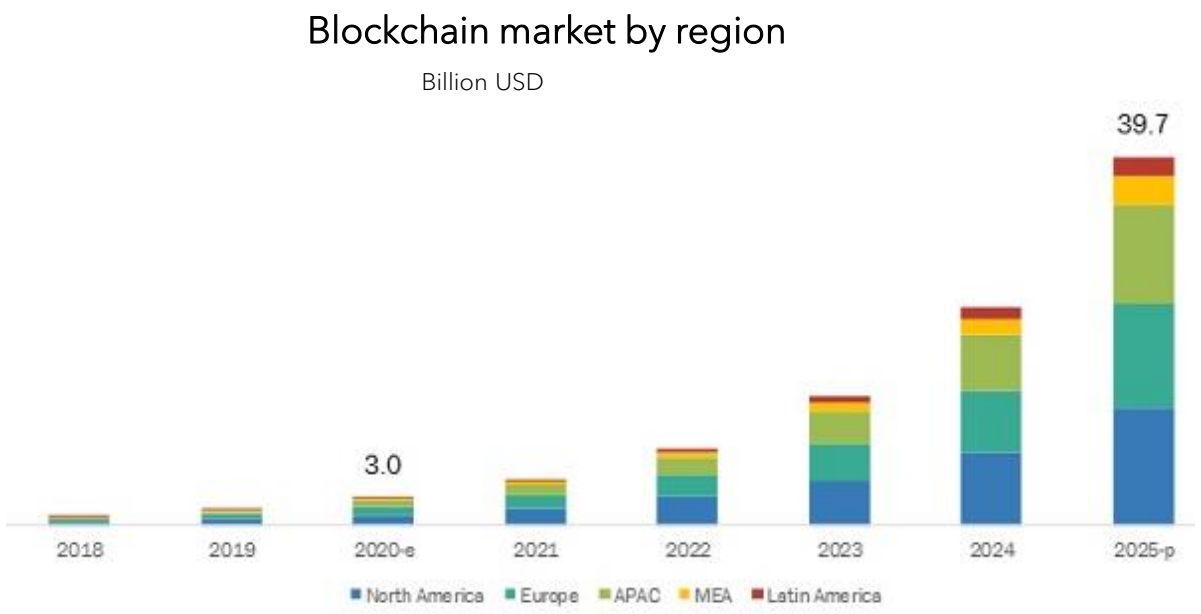
The United States and Switzerland are the countries with the most stablecoins

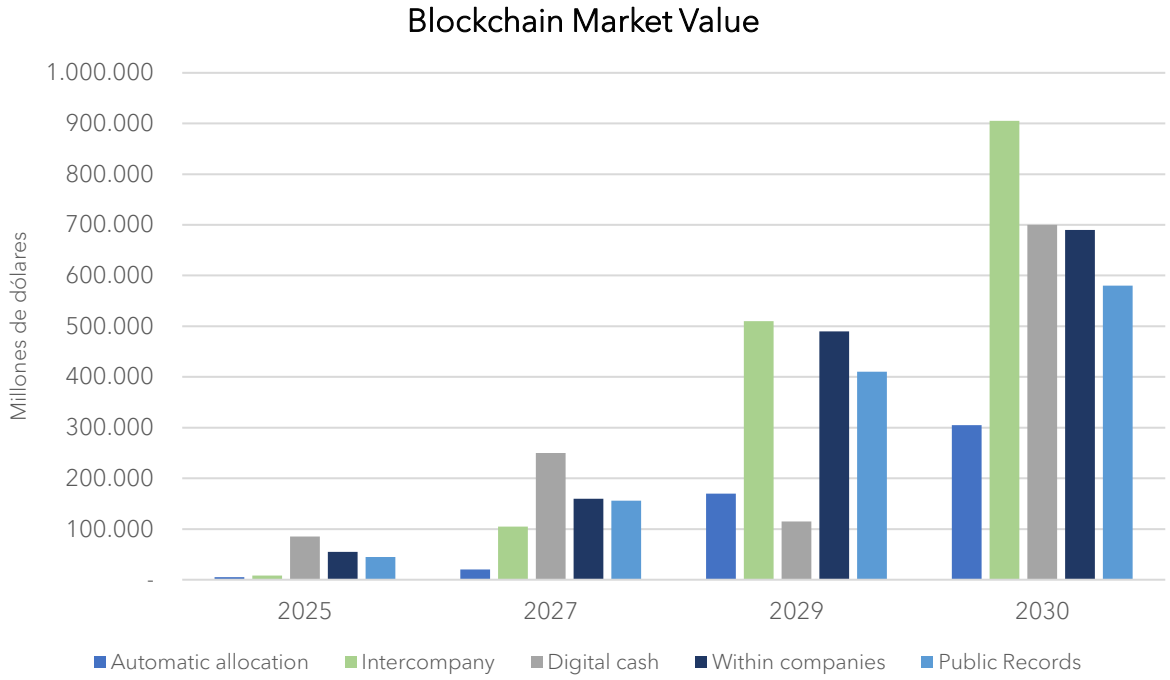
https://www.defipulse.com/
https://medium.com/alethio

WHY INVEST IN BLOCKCHAIN

- Blockchain will provide a long-term investment opportunity as its practical applications and penetration increase over time.
- The World Economic Forum estimates that approximately 10% of global GDP will be stored in Blockchain technology by 2027.
- The business value added of Blockchain is estimated to be $176 billion by 2025.

Blockchain will contribute $3.1 trillion in value by 2030





Source: Blockchain Business Value, Worldwide, 2017-2030

Source: https://www.iebschool.com/blog/blockchain-cadena-bloques-revoluciona-sector-financiero-finanzas/

HOW TO CHOOSE WHERE TO INVEST

Broadly speaking, there are different projects or ecosystems that provide the basis for the development of other applications.

Each of the projects (ETH, SOLANA, etc.) works like an 'Apple Store' or 'Android Store' where each application is developed, so each of the ecosystems is chosen according to the attractiveness and number of applications it offers.

The existence of a cryptocurrency is intrinsic to each of the projects since it is the method of remuneration of the miner who works for the network. An example is the digital yuan which is developed on the Ethereum ecosystem, but it is necessary that ETH exists as a currency to pay the miners.

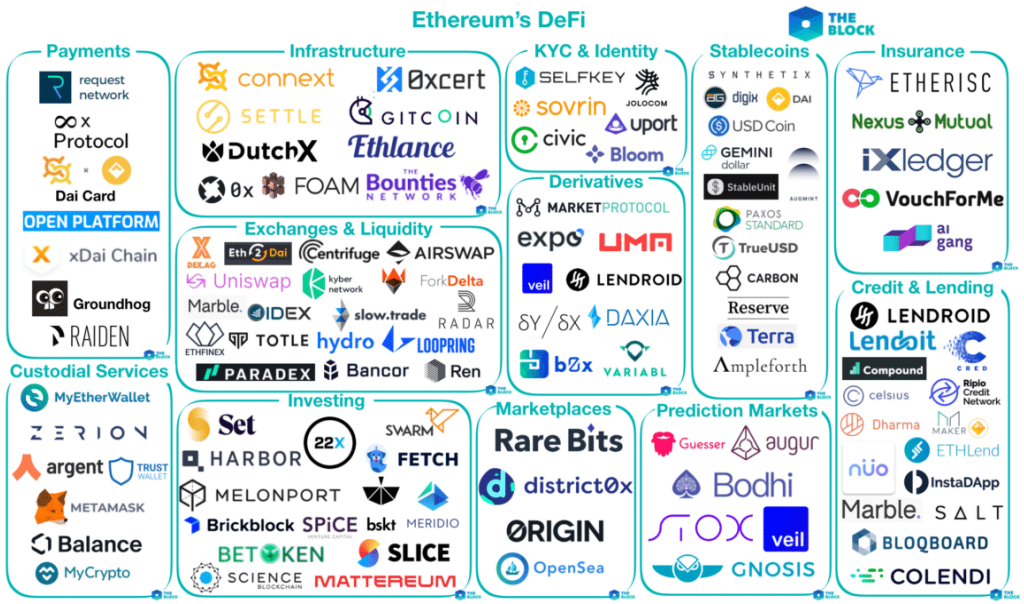
This makes it relevant to know the number of projects that are being developed on each platform to know the value of each one.

INVESTMENT ALTERNATIVES

- You can invest in the different applications that are developed on the ecosystem. For example, buying digital yuan if I understand that it is going to increase in value.

- Nowadays there are already different instruments that allow to invest in several projects simultaneously and diversify the risk within this category that is part of the alternative assets of the portfolio..

Ethereum Ecosystem:



Source: Blockcain Business Value, Worldwide, 2017-2030

For invesvmet ideas please contact your Financial Advisor
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