**Forum:** Economic and Financial Committee (GA2)

**Topic:** Exploring the potential economic applications of blockchain technology

**Student Officer:** Kristi Efstathiou

**Position:** Co-chair

## PERSONAL INTRODUCTION

Dear delegates,

My name is Kristi Efstathiou, and I am a 10th grade student at Ekpaideutiki Anagennisi. This year, it is my utmost honour to be serving as a student officer of the Economic and Financial Committee (GA2) in SCMUN 2024. I've been participating in MUN Conferences for four years, through which I have been given the opportunity to gain a deeper understanding of issues regarding global politics, economics, and the intricacies of diplomacy.

This year's GA2 agenda enables participants to learn and engage in discussions about important topics that concern nations worldwide. Exploring the potential economic applications of blockchain technology is an issue of paramount importance, as its repercussions on the overall economy can be huge. This guide will provide you with the essential and vital knowledge on the topic so as to assist you in your efforts to formulate your own resolutions.

Nonetheless, I strongly advise you to undertake more study on the subject since new information emerges on a daily basis. If you have any questions, please do not hesitate to contact me through my email: kristi.efsta2008@gmail.com

I am looking forward to meeting all of you!

Yours truly,
Kristi Efstathiou

## TOPIC INTRODUCTION

Numerous economic areas could potentially be transformed by blockchain technology. It may revolutionise finance by enabling quicker and more secure transactions, lowering costs, and eliminating intermediaries. Blockchain can improve efficiency, traceability, and transparency in the modern-day economy and the supply chain. It is a transformative technology that opens up new possibilities for economic growth and innovation.

Blockchain is a cutting-edge idea that surfaced with the 2008 creation of Bitcoin, a virtual currency intended to function as money and a form of payment independent of any individual, organisation, or entity. It was created by Satoshi Nakamoto, an unidentified person or group. In order to facilitate safe and transparent transactions without the need for intermediaries like banks or governments, it was designed as a decentralised digital ledger. In other words, a blockchain is a shared database that stores data which are secured by encryption.

The potential of blockchain technology, such as to reduce fraud, boost transparency, and facilitate peer-to-peer transactions led to its rise in popularity. Since then, its uses have grown beyond cryptocurrency and are being explored for use in a number of sectors, including supply chain management, voting systems, and the medical field, etc. Blockchain technology has the ability to completely change how we transact in business and engage with digital assets. Moreover, it has the potential to revolutionise industries beyond finance by cutting down on administrative expenses and boosting overall effectiveness. Because of its decentralised structure and cryptographic security, it's a technology with limitless potential.

The economy needs to investigate blockchain technology because it has the potential to transform industries completely. It provides efficiency, security, and transparency, all of which may save expenses and boost confidence of the businesses while enhancing financial inclusion. Thus, it is crucial to explore the possible uses of blockchain in order to maximise the benefits that this emerging technology has for the economy.

## DEFINITION OF KEY TERMS

### Blockchain Technology

"Blockchain is a shared, immutable ledger that facilitates the process of recording transactions and tracking assets in a business network. An *asset* can be tangible (a house, car, cash, land, etc) or intangible (intellectual property, patents, copyrights, branding, etc). Virtually anything of value can be tracked and traded on a blockchain network."[1] It is decentralised as there is no central authority controlling it, meaning it is fast and efficient, allowing for quick transactions.

### Peer-to-Peer Network

"Peer-to-Peer Network, commonly known as P2P, is a decentralised network communications model made with the aim to allow users to directly interact with each other, enabling them to share resources and services directly with other peers.[2] It consists of a group of devices (nodes) that collectively store and share files where each node acts as an individual peer. In this network, P2P communication is done without any central administration or server, which means all nodes have equal power and are able to perform the same tasks."[3] A key component of blockchain technology is P2P networking design, which enables the global transmission of cryptocurrencies (like the Bitcoin network) devoid of central servers, intermediaries or middlemen.

### Web3

"Web3 is a term used to describe the next iteration of the internet, one that is built on decentralisation, blockchain technology, and is communally controlled by its users."[4]

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[1] "What Is Blockchain Technology?" *IBM*, www.ibm.com/topics/blockchain.
[2] Researcher, Vijay Kanade AI, et al. "Peer-to-Peer Networks: Features, Pros, and Cons." *Spiceworks*, 27 Nov. 2023, www.spiceworks.com/tech/networking/articles/what-is-peer-to-peer/
[3] Sharma, Toshendra Kumar. "Blockchain & Role of P2P Network." *Blockchain Council*, 1 Sept. 2022, www.blockchain-council.org/blockchain/blockchain-role-of-p2p-network/
[4] "What Is Web3?" *McKinsey & Company*, McKinsey & Company, 10 Oct. 2023, www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-web3

## Smart Contract

"Smart contracts are programs stored on a blockchain that run when predetermined conditions are met. They typically are used to automate the execution of an agreement so that all participants can be certain of the outcome immediately, without any intermediary's involvement or time loss. They can also automate a workflow, triggering the next action when certain conditions are met."[5]

## Cryptocurrency

"A cryptocurrency is a digital or virtual currency secured by cryptography, which makes it nearly impossible to be hacked or counterfeited. Double-spend (the act of trying to spend the same digital cash more than once) is also prevented. Most cryptocurrencies exist on decentralised networks using blockchain technology."[6] The cryptocurrencies' values are determined mainly by the market's demand. Some popular cryptocurrencies include Bitcoin, Ethereum, Litecoin, Ripple, and Dogecoin.

## Cryptography

"Cryptography is the process of hiding or coding information so that only the person a message was intended for can read it. The art of cryptography has been used to code messages for thousands of years and continues to be used in bank cards, computer passwords, and e-commerce"[7]

## Economic Growth

"The expansion of the economic output of an economy, usually expressed in terms of the increase of national income, GDP (Gross Domestic Product) and GNP (Gross National Product). Nations experience different rates of economic growth mainly because of differences in population growth, investment, and technical progress."[8]

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[5] "What Are Smart Contracts on Blockchain?" *IBM*, www.ibm.com/topics/smart-contracts

[6] Frankenfield, Jake. "Cryptocurrency Explained with Pros and Cons for Investment." *Investopedia*, Investopedia, www.investopedia.com/terms/c/cryptocurrency.asp

[7] "What Is Cryptography? Definition, Importance, Types." *Fortinet*, www.fortinet.com/resources/cyberglossary/what-is-cryptography

[8] "Economic Growth." *Oxford Reference*, www.oxfordreference.com/display/10.1093/oi/authority.20110803095741367

## Decentralised Finance (DeFi)

"Decentralised finance (DeFi) is an emerging financial technology based on secure distributed ledgers similar to those used by cryptocurrencies. It attempts to eliminate the fees that banks and other financial service companies charge while promoting peer-to-peer transactions[9]."

## Distributed Ledger Technology (DLT)

"Distributed ledger technology (DLT) is the technological infrastructure and protocols that allow simultaneous access, validation, and record updates across a networked database. DLT enables transparent tracking of changes, reduces audit necessity, ensures data reliability, and restricts access to only authorised users."[10]

## Supply Chains

"A supply chain is a network of individuals and companies who are involved in creating a product and delivering it to the consumers. Links on the chain begin with the producers of the raw materials and end when the delivery of the finished product to the end user."[11] Blockchain may significantly enhance supply chains by facilitating more rapid and economical product delivery, boosting product traceability, strengthening partner coordination, and facilitating financial access.

## Tokenization

"Tokenization is a capability that leverages blockchain technology to securitise assets, both traded and non-traded. Key benefits of tokenization include increased liquidity, faster settlement, lower costs and bolstered risk management."[12]

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[9] Sharma, Rakesh. "What Is Decentralized Finance (DEFI) and How Does It Work?" *Investopedia*, Investopedia, www.investopedia.com/decentralized-finance-defi-5113835

[10] Nevil, Scott. "Distributed Ledger Technology (DLT): Definition and How It Works." *Investopedia*, Investopedia, www.investopedia.com/terms/d/distributed-ledger-technology-dlt.asp

[11] Hayes, Adam. "The Supply Chain: From Raw Materials to Order Fulfillment." *Investopedia*, Investopedia, www.investopedia.com/terms/s/supplychain.asp

[12] "Tokenization: Opening Illiquid Assets to Investors." *BNY Mellon*, www.bnymellon.com/us/en/insights/all-insights/tokenization-opening-illiquid-assets-to-investors.html

# BACKGROUND INFORMATION

## History of Blockchain

Invention of the first Cryptocurrency

Everything started in 2008 when Satoshi Nakamoto published the Bitcoin White Paper. When it was originally launched in 2009, Bitcoin was the first decentralised cryptocurrency, and it gradually gained popularity. Other cryptocurrencies like Ethereum, Litecoin, and Ripple (XRP) emerged as a result of this. As cryptocurrencies gained traction, they were utilised for more than just financial transactions. Examples of these applications include decentralised apps and smart contracts.

White Paper 2008 - Satoshi Nakamoto

Published in 2008, the Satoshi Nakamoto white paper is a key text in the cryptocurrency field. It described the underlying blockchain technology and presented the idea of Bitcoin, a decentralised digital currency. The study discussed the problem of double-spending and offered a method that uses a computer network to record and validate transactions. Since then, numerous blockchain-based protocols have been created as a result of this ground-breaking concept, which has the power to completely change a wide range of businesses.[13]

The White Paper: https://bitcoin.org/bitcoin.pdf

Ethereum Frontier

The first live version of the Ethereum blockchain was called Ethereum 1.0, or the Ethereum Frontier. On July 30, 2015, it was released, enabling developers to begin creating and testing smart contracts and decentralised apps (DApps). Although developers had to deal with a number of obstacles and constraints at this stage, it set the stage for further Ethereum network updates and enhancements. The Frontier Network resembled the uncharted territory of Ethereum, with innovators delving into

[13] "Open Source P2P Money." Bitcoin, https://bitcoin.org/bitcoin.pdf

the potential of this emerging technology. Unlike Bitcoin, Ethereum goes beyond being a currency and a form of payment, as the DApps can have various uses such as decentralised finance and supply chain management. Ethereum was designed to support smart contracts, and with the DApps, it offers more flexibility and functionality than Bitcoin.

Bitcoin 2.0

The term "Bitcoin 2.0", also known as Bitcoin Cash (BCH) describes the idea of expanding the blockchain's capabilities beyond the realm of virtual money. It entails building decentralised apps (DApps) and smart contracts on top of the Bitcoin system. The constraints of Bitcoin's programming language, which limited its application to straightforward transactions, gave rise to this concept. With Bitcoin 2.0, more sophisticated functionalities like tokenization of assets, decentralised financing (DeFi), and even the development of new blockchain protocols should be possible. Although the term "Bitcoin 2.0" is not often used, it has had an impact on the creation of Ethereum as the development and success of Bitcoin inspired the founder of Ethereum Vitalik Buterin, as well as other blockchain platforms that offer a more stable framework for developing decentralised applications to build upon the concept.

## How Blockchain Technology Works

The fundamental principle of blockchain technology is the recording of transactions in a sequence of virtual blocks that are connected to one another to form a chain. The blocks are distributed databases that maintain a continuously growing list of ordered records. The integrity and permanence of the contents are guaranteed by the inclusion of a timestamp, reference to the preceding block, and a unique cryptographic hash - in other words a mathematical algorithm in each block. Thus, blockchain technology is made for more transparent transactions with more privacy, security and efficiency.

As each transaction occurs, it is recorded as a "block" of data

These transactions represent the transfer of an asset, which may be material (a product) or immaterial (intellectual). The choice of information is recorded in the data

block, including who, what, when, where, how much, and even the condition, such as, in the case of a supply chain, the temperature of a food shipment.

Each block is connected to the ones before and after it

Using the strongest encryption available, digital assets—from money to music and everything in between—are dispersed over a global ledger rather than being kept in one single location. As an asset is transferred between locations, these pieces of information come together to form a chain of data. The blocks are firmly linked to one another to prevent any block from being changed or added between two already-existing blocks. They also verify the exact sequence and timing of transactions, which allows for the tracking of transactions.

Proof of work (PoW)

Miners (in this case Bitcoin miners) use a lot of computer processing power to solve challenging mathematical puzzles in the encryption of cryptocurrencies. They accomplish this by continuously hashing various data combinations until they identify a solution that satisfies certain standards. We refer to this answer as the "Proof of work (PoW)", which is essentially the process Bitcoin and several other cryptocurrencies use to generate new coins and verify and secure their blockchains[14]. The new block is added to the blockchain and digital currencies are awarded to the first miner to discover the Proof of work. By using a decentralised network of miners to verify the transactions, this technique makes it harder for a single party to take control of the network. It also keeps the blockchain's integrity intact and aids in preventing double-spending. The downside to this is that the process requires significant electricity usage, making it environmentally unfriendly.

Proof of Stake (PoS)

The winner of the next block in Proof of Stake (PoS) is determined by the number of coins that a miner is prepared to "stake" as collateral, as opposed to miners competing to solve puzzles. Their chances of getting chosen increase the more coins they own. As

[14] "Crypto Basics - What Is Mining?" *Coinbase*, Coinbase, www.coinbase.com/learn/crypto-basics/what-is-mining. Accessed 9 Dec. 2023

a result, fewer computations that demand a lot of energy are required by PoS than PoW. PoS is thought to be a more energy-efficient substitute for PoW.

Transactions are blocked together in an irreversible chain: a blockchain

Every new block reinforces the prior block's verification, and by extension, the blockchain as a whole. This gives the blockchain its crucial strength of immutability and makes it tamper-evident. If a user is to attempt to hack a blockchain, they would need to hack a block and every preceding block on the chain, which is almost impossible. In other words, for a blockchain to be accessed from a third party, a hacker will have to hack millions of computers all at once because the information the blockchain carries is shared. By doing this, network users may create a trusted ledger of transactions and eliminate the chance of manipulation by malicious actors.

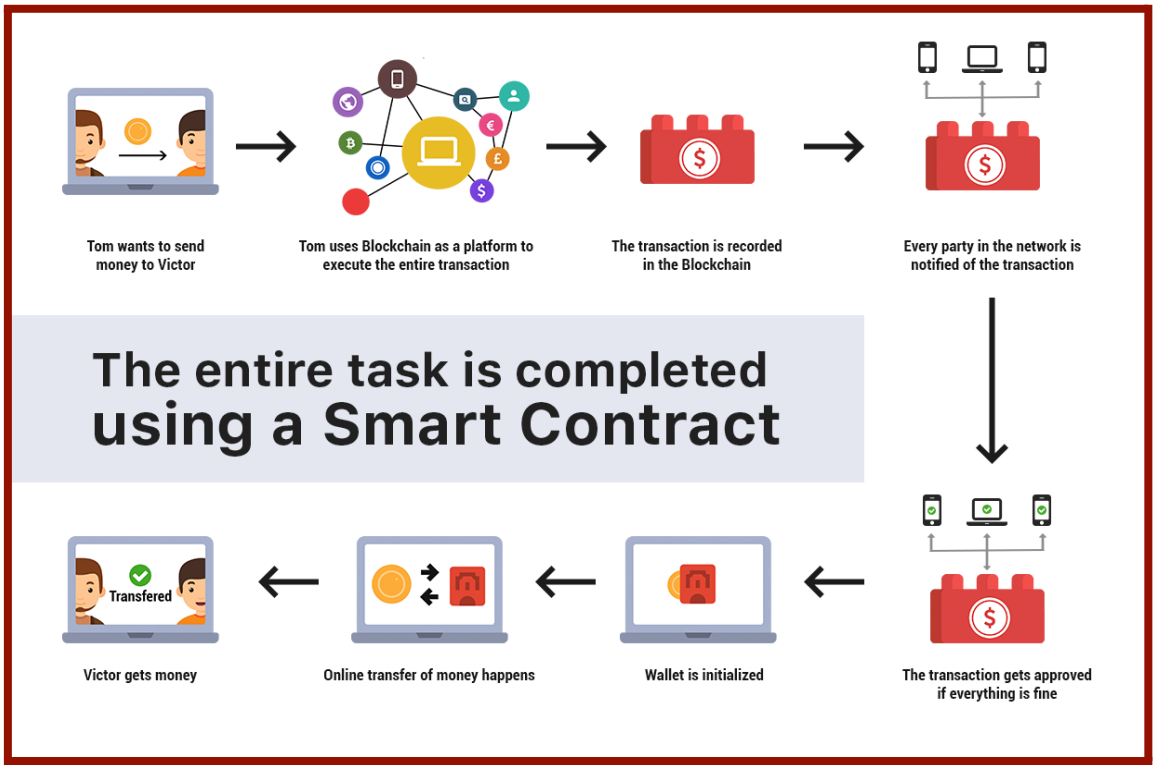


*Fig 1: How a task is completed with smart contract* [15]

[15] Zero, Stat. "Smart Contracts: Why Are They Important for GovTech Innovations?" *Medium*, Medium, 15 Feb.2020, medium.com/@statzerogroup/smart-contracts-why-are-they-important-for-govtech-innovations-eadd66bed052

## Various Uses of Blockchain Technology

Supply Chains

Supply chains may be completely transformed by blockchain technology, which can offer an unchangeable and transparent record of each transaction involving the transportation of products. This makes it simple for stakeholders to track the origin and flow of goods along the supply chain. It guarantees that customers obtain authentic items and aids in the prevention of fraud and counterfeiting. The process of tracking a product's travel history on the blockchain makes it simpler to detect and stop the sale of fake products. This keeps customers safe from buying phoney goods and supports the upkeep of a brand's reputation.

Voting Systems

Voting systems may become more tamper-proof and safe using blockchain. Since every vote is tracked on the blockchain, it is nearly impossible to tamper with or manipulate the outcome. By guaranteeing that every vote is correctly counted and upholding confidence in the democratic process, the election's integrity improves.

Healthcare

Medical records may be shared and stored securely and made decentralised using blockchain technology. Authorised healthcare practitioners can securely store and access patient data through the use of blockchain technology. It improves patient care and privacy by doing away with the need for centralised databases, lowering the chance of data breaches, minimising the risk of performing wrong procedures, and enabling safe and easy exchanges of medical data across healthcare providers.

Digital Identity Verification

Blockchain technology can offer a decentralised and impenetrable system and has the potential to revolutionise digital identity verification. People may manage their own digital identities maintained on the blockchain, independent of centralised authority, which allows them to have full control over their personal information. In addition to improving security and privacy, this lowers the possibility of fraud or identity theft during online transactions.

Decentralised Finance (DeFi)

Also known as DeFi, or Decentralised Financial Infrastructure, DeFi is made possible by blockchain technology. Peer-to-peer transactions are made feasible by these technologies, which do not require intermediaries like banks. Not only does this allow for faster transactions, but the ability for people to obtain financial services without the need for traditional banking infrastructure also creates new prospects for financial inclusion and accessibility. Additionally, it lowers expenses and increases financial transaction transparency.

Crypto Donations

The simplicity and openness of donations using cryptocurrency have made them more popular in recent years. By bypassing conventional payment methods, people and organisations may accept donations directly with cryptocurrencies like Ethereum, Bitcoin, and others. Lowered costs and speedier transactions are made possible by this. Furthermore, because transactions can be publicly confirmed on the blockchain, this way of donation boosts transparency. This method of donation can completely transform the charity and philanthropy industry.

## Case Studies

Walmart - Food Supply Chain Management

Walmart has embraced blockchain technology specifically for their food. There are several advantages to Walmart's application of blockchain technology in supply chain management. Transparency is improved as all parties involved can follow and trace a product's path from where it is produced to the shop shelves. This means they can identify the source of any issues in a matter of seconds. This ensures food safety and quality by promptly identifying and resolving problems like food contamination or fake goods, which minimises the risk of customers getting foodborne illnesses. Blockchain also simplifies the supply chain process by cutting out intermediaries and bureaucracy, which lowers costs and boosts productivity. There are obstacles to take into account, too, such as the requirement for broad supplier acceptance of incorporating the blockchain network and possible problems with capacity as transaction volume rises.

Ripple - Cross-Border Payments

The goal of Ripple is to completely transform international trade. Conventional overseas money transfers have the potential to be costly, time-consuming, and dependent on middlemen. XRP Ledger, a technology developed by Ripple, makes it possible to move fiat money and cryptocurrencies quickly and affordably. Ripple verifies and validates transactions using a network of validators. By ensuring consensus among the validators, Ripple's consensus algorithm replaces the need for a central authority, such as a bank.

Financial organisations may use Ripple's technology to make international payments easier. Transactions may be finished quickly by utilising XRP, the native cryptocurrency of Ripple, as a bridge currency. For example, in 2019, Ripple partnered with MoneyGram, one of the world's largest money transfer companies. As part of this collaboration, Ripple made a $50 million investment in MoneyGram and agreed to provide ongoing support for the company's cross-border payment solutions. This partnership aimed to leverage Ripple's technology to enhance the speed and efficiency of international money transfers. Another example was in 2020, when Ripple announced a strategic partnership with Intermex, a leading remittance services provider in Latin America. This collaboration aimed to improve cross-border payments between the United States and Mexico. Through Ripple's On-Demand Liquidity (ODL) solution, Intermex was able to settle transactions using XRP, to provide faster and more cost-effective remittance services.

## TIMELINE OF EVENTS

| Date of the Event | Event |
|---|---|
| 31 October 2008 | Satoshi Nakamoto conceptualised the concept of "Distributed Blockchain" in his |

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|---|---|
| | white paper: "A Peer-to-Peer Electronic Cash System". |
| 2013 | Financial Crimes Enforcement Network (FinCEN) set guidelines for Bitcoin in the USA, as it declared that "administrators or exchangers" of virtual currency qualify as money services businesses"[16] |
| 2014 | Blockchain 2.0 was born |
| 1 December 2014 | Estonian E-Residency Program was launched |
| 13 July 2015 | Linux Foundation launched the Hyperledger project, which aimed to advance cross-industry blockchain technologies |
| 2016 | Blockchain was accepted as a single word instead of two different concepts ( block and chain) |
| 19 December 2016 | Daily Ethereum transactions exceeded 1 million for the first time |
| April 2017 | Japan recognized Bitcoin and other virtual assets as a legal currency |
| 3 September 2017 | Block.one released the first version of EOS - a user-friendly environment for building DApps- blockchain operating system |

[16] Lemine, Katherine A. *Cryptocurrency and Anti-Money Laundering Enforcement | Reuters*, 26 Sept. 2022, www.reuters.com/legal/transactional/cryptocurrency-anti-money-laundering-enforcement-2022-09-26/.

| | |
|---|---|
| 2018 | Google, Twitter, and Facebook banned the advertising of cryptocurrencies |
| 25 April 2020 | BSN was launched in China |
| 1 December 2020 | Ethereum launched Beacon Chain in preparation for Ethereum 2.0 |
| 7 September 2021 | Bitcoin became a legal tender of El Salvador |
| 15 September 2022 | Ethereum Merge - Ethereum's consensus mechanism is now PoS |

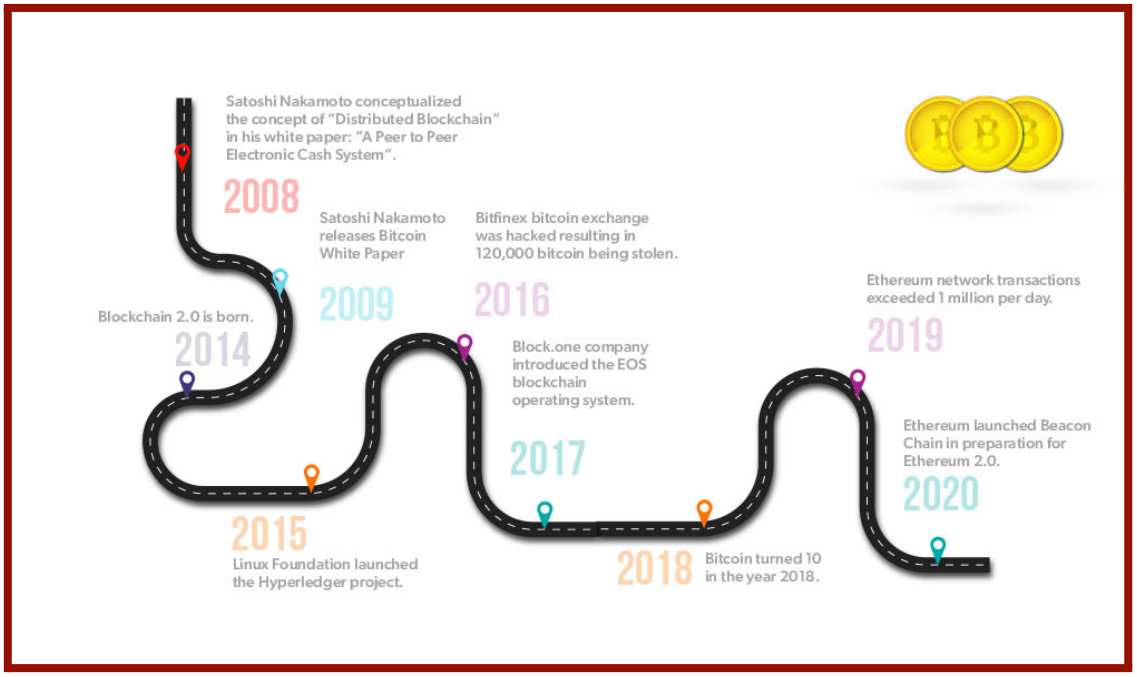


*Fig 2: The history of Blockchains*[17]

## MAJOR COUNTRIES AND ORGANISATIONS INVOLVED

### United States of America (USA)

[17] "History of Blockchain." *GeeksforGeeks*, GeeksforGeeks, 6 Oct. 2023, www.geeksforgeeks.org/history-of-blockchain/

To strengthen its economy, the USA is actively using blockchain technology. They are investigating a number of uses, including digital identity verification, cross-border payments, and supply chain management. In 2013, the Financial Crimes Enforcement Network (FinCEN) of the U.S. Department of Treasury released guidelines on Bitcoin. According to the Treasury, Bitcoin is a convertible currency that may be used in place of real money and has a value comparable to that of actual currency. Additionally, they have established blockchain-focused initiatives such as the Blockchain Alliance which aims to promote responsible blockchain adoption. The United States of America seeks to improve efficiency, lower costs, and increase transparency in various industries by utilising blockchain.

### United Kingdom (UK)

To integrate blockchain technology into its economy, the UK is acting decisively. In the UK, cryptocurrencies are not considered legal tender which means they are not recognized as an official form of payment. However, blockchain technologies are being rapidly used in government services, supply chain management, and banking. For safe and open financial transactions, for instance, the government is investigating blockchain-based solutions. Furthermore, in an effort to improve traceability and lower fraud, the UK government is working with industry professionals to create supply chain solutions based on blockchain technology. To increase security and expedite administrative procedures, they are also investigating the application of blockchain technology in digital identity verification.

### China

China has been leading the way in blockchain technology advancements. To assist with the creation and implementation of blockchain applications, they have introduced the Blockchain-based Service Network (BSN), a state-backed national blockchain infrastructure. The application of blockchain in a number of industries, including banking, supply chain management, healthcare, and government services, has also been researched in China. However, despite the fact that the nation continues to seek blockchain technologies as a tool for industries, China has implemented strict regulations on cryptocurrency trading and transactions. The Chinese government has

prohibited initial coin offerings (ICOs) and imposed restrictions on cryptocurrency exchanges.

### Singapore

In terms of using blockchain technology, Singapore has taken the lead. In order to facilitate the application of blockchain for interbank payments, they have started projects like Project Ubin, a joint venture between the Monetary Authority of Singapore and other financial institutions. The Singapore Blockchain Innovation Programme (SBIP) was also founded in 2020 to aid blockchain firms and advance the field's research and development. As a result of their work, Singapore is now recognized as a major hub for blockchain adoption and innovation worldwide.

### Japan

Japan is one of the proactive leaders in adopting blockchain technology in Asia. Since 2017, the nation has accepted Bitcoin and other cryptocurrencies as legitimate means of payment. The Financial Services Agency (FSA) of Japan has put laws into place to safeguard consumers, stop money laundering, and encourage the expansion of the sector. Additionally, Japan has been intensively investigating how blockchain technology can be used in its economy. Japan has become a centre for bitcoin exchanges, drawing companies and encouraging innovation in the sector.

### Chamber of Digital Commerce

The Chamber of Digital Commerce is based in Washington in the United States and it was founded in 2014. Particular steps have been taken by the Chamber of Digital Commerce to advance blockchain technology in the economy. They have taken part in policy advocacy, working with governmental organisations to create rules that are favourable to blockchain technology. The Chamber also plans seminars and activities to inform companies about the possibilities of adopting blockchain technology. They have also formed working groups to tackle important issues including taxes and custody of digital assets.

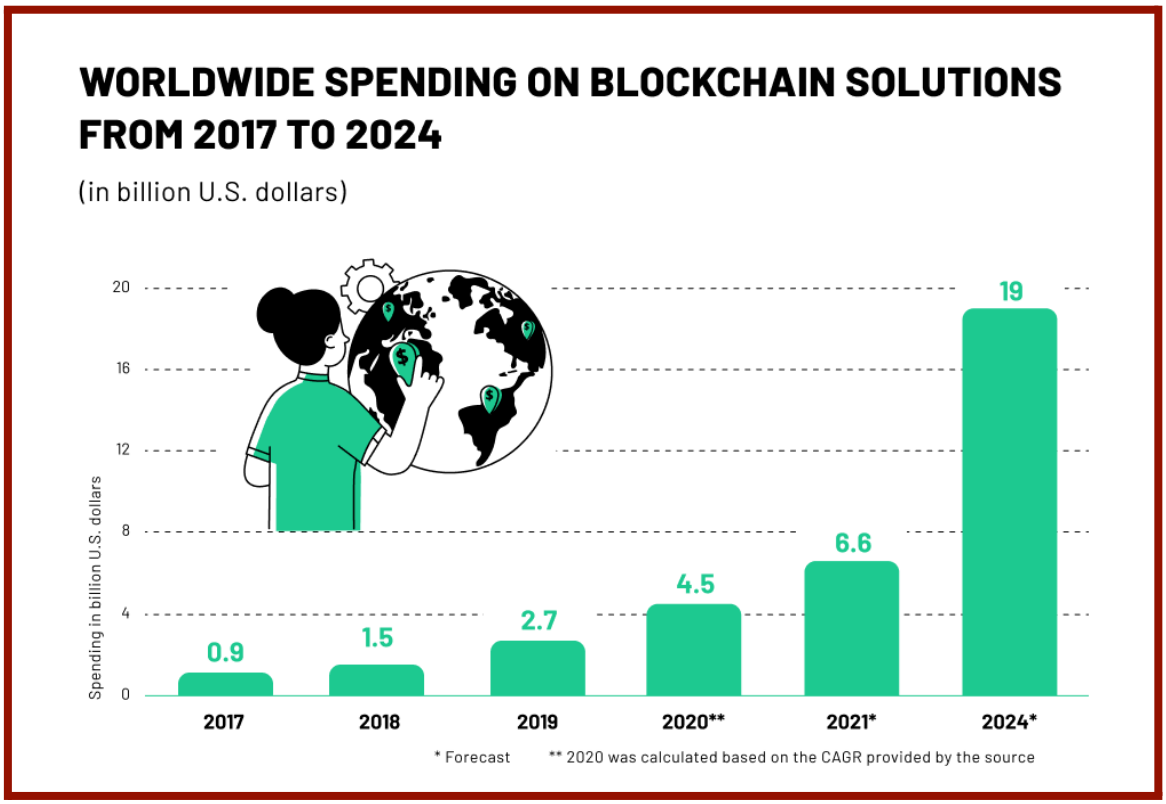


*Fig 3: Worldwide spending on blockchain solutions*[18]

### The Enterprise Ethereum Alliance (EEA)

Several working groups have been formed by the Enterprise Ethereum Alliance (EEA) to address certain blockchain technology possibilities and concerns. The fundamental target is for EEA to enable businesses to use Ethereum technology. It has working groups that address a variety of topics, including supply chain management, provenance tracking, inter-bank payments, reference data, and securities settlement. They work on creating standards, finding best practices, and use cases for Ethereum and blockchain adoption by bringing together stakeholders and industry professionals. The EEA hopes to promote innovation and broaden the use of blockchain technology in several economic areas through these working groups.

## RELEVANT UN TREATIES, CONVENTIONS AND RESOLUTIONS

[18] Writer, Adam Rowe. "Blockchain Statistics - Why Blockchain Matters in 2023." *Tech.Co*, 18 July 2023, tech.co/accounting-software/blockchain-statistics.

### The UN Development Program (UNDP)

The UN Development Program (UNDP) acknowledges blockchain technology's economic potential. It has released a paper to investigate the potential applications of blockchain in several areas, including promoting financial inclusion and reducing the cost of money transactions. They have been investigating its potential uses in fields including sustainable development and supply chain management. The UNDP wants to take advantage of the efficiency and transparency of blockchain technology to advance economic growth.

### UN Conference on Trade and Development (UNCTAD)

An effort of the United Nations Conference on Trade and Development (UNCTAD) is named "eTrade for all." The objective is to foster equitable and enduring economic growth via online and digital commerce. The initiative's main goal is to close the digital gap by helping developing nations—especially the least developed countries (LDCs)—to improve their e-commerce and digital trade capabilities. It provides support in areas including the creation of legislative frameworks, policies, infrastructure, and training programs for digital skills. To promote cooperation and exchange of information, eTrade for All also makes alliances between corporations, governments, and civil society groups, enabling nations to fully engage in the digital economy and benefit from it. This program acknowledges the ability of digital trade and e-commerce to boost economic growth, create employment opportunities, and promote sustainable development. By providing support and resources, UNCTAD aims to ensure that no country is left behind in the digital era.

### UNHRC Initiative on Crypto Donations

During the Ukrainian war in 2022, the UNHRC launched an initiative where people could donate through cryptocurrencies such as Bitcoin and Ethereum to financially help the missions to help Ukrainian families forced to flee. This made the process of a donation much faster and allowed crypto owners to donate large sums of money with considerable privacy.

### UN Centre for Trade Facilitation & Electronic Business (UN/CEFACT)

Research has been conducted on the possibilities of using blockchain technology in trade facilitation and electronic business by the UN Centre for Trade Facilitation & Electronic Business (UN/CEFACT). The studies investigate how blockchain technology might expedite international transactions, augment supply chain transparency, and boost trade process efficiency.

## PREVIOUS ATTEMPTS TO SOLVE THE ISSUE

### Estonia - E-Residency System 2014

The E-residency program was launched by the Estonian government on the 1st of December 2014. It uses blockchain technology to verify digital identities, and streamlines administrative procedures by giving people safe access to government services and the option to electronically sign papers. There are several benefits and drawbacks to the Estonian e-Residency system to take into account. Positively, regardless of one's physical location, the e-Residency program enables people to engage in digital entrepreneurship by starting and managing firms online. Because e-residents may use Estonian services and do business remotely without having to physically be there, this creates prospects for worldwide accessibility. In addition, the initiative offers an authenticated digital identity issued by the Estonian government, guaranteeing safe online transactions and verifying an individual's online existence. There are, however, a few restrictions to be mindful of. First and foremost, it's crucial to understand that e-residency does not equate to legal residency or Estonian citizenship. The e-Residency program offers advantages, but it does not provide you the right to live or work in Estonia without getting the required licences. Furthermore, as the e-residence program is primarily intended for company owners and entrepreneurs, it might not be appropriate for people looking for other kinds of residence, such as work or educational possibilities. Finally, there is always a chance of fraud or misuse, just as with any digital system. The Estonian government must continue to implement strong security protocols in order to guard against misuse and illegal access to the e-residency program.

To read more about the system:

https://www.sciencedirect.com/science/article/abs/pii/S0267364917300845

### China - Blockchain-based Service Network (BSN)

China launched an ambitious project on the 25th of April 2020 to establish a national blockchain infrastructure called the Blockchain-based Service Network (BSN). Its goal is to offer a dependable and standardised platform for the creation and implementation of blockchain applications. With its affordable and scalable solution, the BSN seeks to reduce entry barriers for companies and developers. Furthermore, it facilitates seamless integration and collaboration by offering connectivity across many blockchain networks. The BSN has the power to spur innovation and quicken the Chinese economy's embrace of blockchain technology.

### El Salvador - Bitcoin Legal Tender and "Chivo"

*Fig 4: Salvadoran President Nayib Bukele, an advocate of blockchain technology*[19]

[19] Schwartz, Leo. "El Salvador Became the First Country to Accept Bitcoin as Legal Tender. Now It's Offering Citizenship for a $1 Million 'Investment.'" *Fortune Crypto*, Fortune, 8 Dec. 2023, fortune.com/crypto/2023/12/08/el-salvador-bitcoin-tether-nayib-bukele-investment-citizenship/.

With the "Bitcoin Law" coming into effect in September 2021, El Salvador is the first country in the world to recognise Bitcoin as a legal tender, which means that it is a legitimate payment method for goods and services, and even taxes and debts. Subsequently, the nation debuted Chivo, a national crypto wallet. Each wallet contained $30 in Bitcoin as a sign-up bonus to incentivise citizens to partake in it. Chivo allows users to seamlessly make and receive transactions in Bitcoin free of charge. It also allowed users to exchange Bitcoin for USD and vice versa. These actions are believed by the president to be a boon for financial inclusion, investment, innovation, and economic development. On the 12th of January 2023, legislation was passed to establish a legal framework for a Bitcoin-backed bond dubbed "Volcano Bond". The tokenised bond is intended to raise capital in order to pay down El Salvador's sovereign debt and create Bitcoin mining infrastructure. This bond allowed for investment from foreign crypto owners.

While El Salvador's openness to blockchain technology brings benefits such as the elimination of remittance payments, improved access to financial services and markets as well as the fact that El Salvador is no longer subjected to the Dollar Dominance, it does come with some disadvantages, the major one being that Bitcoin price fluctuates a lot, so its price may go down, therefore diminishing the value of Salvadorans' money and reduce their purchasing power in foreign countries.

## POSSIBLE SOLUTIONS

### Research and Development Projects

Businesses may set aside funds to investigate and create blockchain solutions tailored to their sector. In order to do this, it is necessary to research the technology, comprehend its potential, and pinpoint applications for blockchain by researching the various cases where blockchain technology can be implemented, as well as acknowledging the previous cases where it has been successfully used. Businesses may learn more about the possible uses of blockchain in their particular industries by working with academic institutions or research groups as well as with responsible

organisations such as EEA and the Chamber of Digital Commerce. Furthermore, businesses can work with initiatives such as the Hyperledger Project for building enterprise-grade blockchain solutions through developing a modular framework, proposed by the Linux Foundation. Additionally, staying current on the newest trends and developments requires active participation in the blockchain ecosystem. Businesses may network with like-minded individuals, engage with industry experts, and learn about practical use cases by taking part in conferences, workshops, and meetings. Participating actively in blockchain networks encourages knowledge exchange and teamwork, and creates opportunities for cooperation.

## Creation of communities and NGOs to promote the use of blockchain technology

One way to encourage exploring the application of blockchain technology is to create communities and non-governmental organisations (NGOs) devoted to this goal. These groups can concentrate on investigating opportunities for using blockchain, promoting blockchain adoption, educating the public, and encouraging cooperation between industry experts. Being part of a Decentralised Autonomous Organisation (DAO) can also present chances for exploring the uses of blockchain technology. DAO is an essential element of Web3, and it promotes trust and transparency, as well as community governance.

Decentralised Autonomous Organizations (DAOs)

A Decentralised Autonomous Organization, or DAO, is a blockchain-based organisation that runs smart contracts. It functions autonomously, without a centralised authority or middlemen, much like a digital entity. DAOs provide decentralised decision-making, transparency, and community governance. They are driven by blockchain technology. In blockchain applications, DAOs are advantageous because they promote trust and encourage a focus on community. Since DAOs run on a public blockchain, all decisions and transactions are publicly recorded. A further benefit is the removal of centralised management. More democratic and inclusive government is made possible by DAOs, which divide up the ability to make decisions among its members. More varied

viewpoints and greater community involvement in working towards a Web3-based future may result from this.

### Making cryptocurrencies a legal form of payment

The member states that embrace blockchain technology and recognise cryptocurrencies as legitimate means of payment may effectively advance inclusive policies. This will increase financial inclusion, promote innovation in the digital economy, and provide people and companies additional alternatives for transacting money. Governments may also look at the idea of accepting payments in digital currencies for specific public services, including education, healthcare, and transportation. This might improve openness in large transactions, cut expenses, and streamline procedures. The governments can also encourage companies to reward their employees with cryptocurrency, and it can even provide crypto pensions to retired people who prefer their payment to be in this form. These actions can lead to more efficient systems being put in place, and lead to the member states' smooth transitions into a decentralised economy.

### Creating an economic model that fits the use of blockchain technology

A token economy is one possible structure that fits nicely with the decentralised nature of blockchain technology. It is a system where digital tokens are used as a medium of exchange within a specific platform or ecosystem. Tokens are employed in this concept as a means of trade inside a blockchain network. These tokens can stand for different resources, privileges, or benefits. Within a blockchain network, token economies may promote cooperation, encourage participation, and align the interests of users. They make it possible to create, distribute, and trade wealth safely and transparently using blockchain technology. Governments and organisations may investigate novel approaches to reward contributions and stimulate the economy by creating token economies. It's crucial to take into account elements like token distribution, governance structures, and legal frameworks to guarantee compliance, security, and fairness.

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