kaminari

Lightning Network Market Research Dec 2023

The Lightning Network: 2023's Dramatic Growth and the Road Ahead

Over 328 million users now have access to Bitcoin's Lightning Network for payments. What's next?

Table of content

Abou	ut Us: Kaminari	3
Proje	ected Growth of the Lightning Network	4
F	Figure 1: Forecast of Lightning Network User Growth in 2024	4
Cryp	oto Exchanges: A Key Catalyst in Lightning Network Adoption	6
F	Figure 2: Spot Exchanges Supporting Lightning vs. No Support	6
Cryp	to Wallets: Another Growth Vector for Lightning Network	7
F	Figure 3: Overview of Crypto Wallet Apps and Lightning Network Implementation	7
F	Figure 4: List of Crypto Wallet Apps Supporting the Lightning Network	8
F	Figure 5: Bitcoin Short-Term Holder Supply and Exchange Balances	8
F	Figure 6: Bitcoin Addresses Grouped by BTC Balance	9
F	Figure 7: Crypto Dominance, Q3 2022 to Q3 2023	10
F	Figure 8: Quarterly Transactions on Bitcoin, Q1 2009 to Q2 2023	11
F	Figure 9: Lightning Network's Capacity	12
F	Figure 10: Total Volume of Bitcoin and LN Transactions in August 2023	12
Why	the Lightning Network is the "Next Big Thing" in iGaming Innovation	14
F	Figure 11: Bet Sums of Softswiss Clients 2022-2023 in bn \$EUR	14
F	Figure 12: Top Digital Currencies Used in Gaming Bets	15
F	Figure 13: Online Casino Account Deposit Structure	16
Stab	elecoins Join the Surge: Billions Flow Through Bitcoin's Lightning Network	17
F	Figure 14: Top 5 Stablecoins by Market Share, 2023	17
F	Figure 15: Tether Transfer Volume and Value, 2023	18
Conc	clusions	20
Refe	rences	21
Appe	endix	22
L	Lightning Network access August 2023	22
L	List of Multichain Wallets without Lightning Network	25

About Us: Kaminari

Kaminari is a Bitcoin infrastructure company, providing seamless Lightning Network integration via enterprise API. This API is expertly tailored for a range of services including payment processors, gateways, cryptocurrency exchanges, wallets, and iGaming platforms to ensure streamlined and efficient transactions.

Built-in liquidity via **57ROOM**

Projected Growth of the Lightning Network



Figure 1: Forecast of Lightning Network User Growth in 2024 Source: Created by Kaminari (based on [1], Apendix 1)

As of August 2023, we estimate that the Lightning Network is now accessible to over a quarter of a billion people worldwide, through an installed application. This significant increase is attributed to Binance's integration of the Lightning Network, providing its 150 million user base with access to instant and cost-efficient BTC payments through this protocol. Key crypto exchanges like OKX with 50 million users, Kraken, Bitstamp, and Unocoin, along with neobanks like CashApp, which alone adds 55 million users and multi chain crypto wallets like Exodus with 4 million users have all integrated the Lightning Network. These platforms have been main players in reaching a user base of 319 millions with access to the Lightning Network, marking a significant milestone in its adoption.

In the near future, Coinbase, with its 108 million user base, is expected to join the Lightning Network. This anticipated integration will significantly expand the network's reach and enhance cryptocurrency transaction efficiency. [Apendix 1]" Having access to Lightning payments in payment apps doesn't mean all users are active users, but it increases the chance that more people will start using it. While access to Lightning payments via an app doesn't guarantee universal adoption, as the user base expands, it enhances the likelihood of more people discovering and embracing its benefits.

If we consider active Lightning users, then according to estimates by River [2], there were between 279k and 1.116 million monthly active Lightning users as of September 2023.

Roughly 33 million entities have interacted with the blockchain throughout Bitcoin's entire history, and an estimated 48-98 million users are holding Bitcoin on exchanges today. A lower bound of routed transactions on the Lightning Network in August 2023 was 6.6 million, or about 213k per day.

The Lightning Network ecosystem consists of a diverse array of companies and participants, each contributing to the network's maintenance and growth in unique ways. Key Lightning Network-related services and participants include Lightning Network nodes, Lightning wallet providers, Lightning Network service providers, and Lightning Network developers. These participants work together to create a more decentralized, democratic, and efficient payment system for Bitcoin blockchain users [3].

In October 2021, Arcane Research [4] published a study, in which it presented the Lightning Network ecosystem for the first time. It consisted of six sectors: technical foundation, payment solutions and savings, finance, rewards and earnings, gaming and gambling, and others. In total, there were 94 companies in the Lightning Network ecosystem, roughly half of which were classified under finance or payment solutions.

In April 2022, Arcane Research [1] published a follow-up study that found the number of companies involved in the Lightning Network had increased to 150% of its previous size. This growth was observed across several areas including payment infrastructure, financial solutions, 'neo-banks', crypto wallets, and e-commerce.

By October 2023, the Lightning Network had expanded to 179 companies across 28 categories. Over the past two years, the number of companies promoting Lightning's development, user adoption, payment capabilities, and Bitcoin earnings opportunities has nearly doubled [2].

Lightning Network is not immune to a high fee environment, so in times of high fees only large custodians can afford channel and liquidity management, thus making Lightning usage mostly custodial. Indeed, non-custodial Lightning usage for retail users is not intuitive, efficient or popular at the moment as a lot of technical issues need to be solved in order to enable it. Thus, we can say that Lightning Network's product market fit is transfers between custodians at the moment.

Crypto Exchanges: A Key Catalyst in Lightning Network Adoption

Cryptocurrency exchanges are the most widely used applications in crypto ecosystem. Binance alone has 150 million users as of August 2023 [5]. OKX - has 50 million [6], also worth mentioning is Bitstamp with 5 million users [7].

We examined all crypto exchanges listed on CoinMarketCap [8] as potential platforms for Lightning Network expansion. According to CoinMarketCap [8], there are currently 224 active centralized crypto exchanges, 14 of which are connected to the Lightning Network - in other words, only 6% of crypto exchanges currently use the Lightning Network to conduct transactions with Bitcoin.

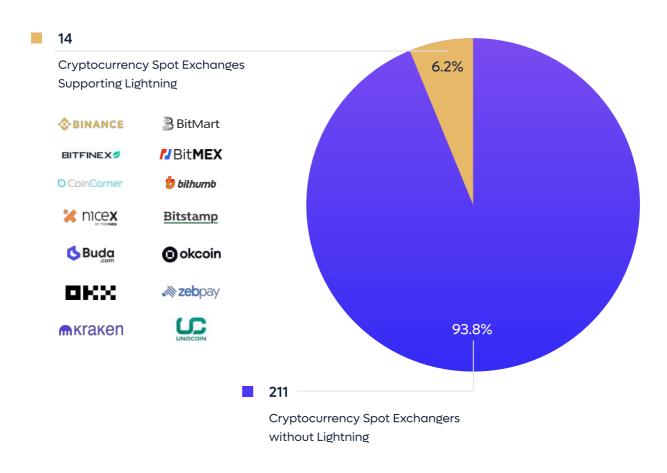


Figure 2: Spot Exchanges Supporting Lightning vs. No Support [16, Apendix 1]

While not all cryptocurrency exchanges disclose customer data, the participation of industry leaders like Binance, OKX, Kraken, Bitstamp, Bitmart etc., in the Lightning Network ecosystem demonstrates a strong trust in its technology and its potential to enhance customer experiences.

Crypto Wallets: Another Growth Vector for Lightning Network

Another key factor driving the expansion of the Lightning Network and the addition of new users is cryptocurrency wallets, which form an integral and significant part of the ecosystem.

By applying the methodology used for crypto exchanges to crypto wallets, we forecasted potential user growth as more wallets adopt the technology. Among over 350 analyzed wallets, only 30 (15 custodial and 14 non-custodial) have integrated Lightning. Notably, among the Top-10 most popular wallets by user count, only Exodus, and BitPay have embraced Lightning. These findings indicate substantial room for user base expansion through wider wallet integration.

We have grouped Multichain wallets based on their potential for Lightning Network integration. Those with Bitcoin blockchain are more likely to integrate Lightning than those without it.



Figure 3: Overview of Crypto Wallet Apps and Lightning Network Implementation [Apendix 2]

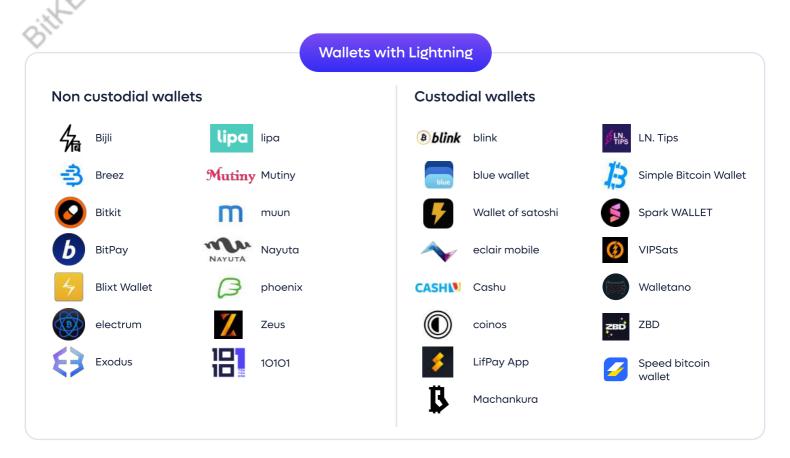


Figure 4: List of Crypto Wallet Apps Supporting the Lightning Network

Cryptocurrency wallets account for about 25% of the total volume of Bitcoin sales. The increasing popularity of cryptocurrencies as long-term investments and current financial assets has a direct impact on the increase in the number of users of crypto wallets.

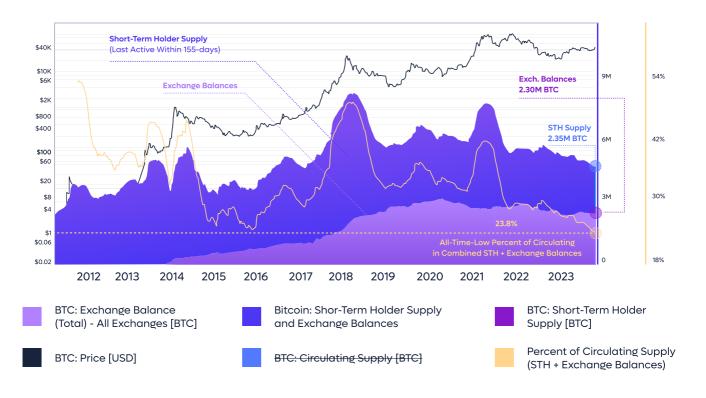


Figure 5: Bitcoin Short-Term Holder Supply and Exchange Balances Source: Glassnode Studio [21]

Glassnode [9] calculated that the balances of exchanges and short-term holders now have approximately the same value - about 2.3 million BTC. Combined, these two indicators of "available supply" make up 23.8% of the reverse supply, which is currently at an all-time low. This is due to the crisis of confidence in the exchanges - above all - the recent collapse of FTX and regulatory pressure on Binance and Coinbase. That is, we can conclude that Bitcoin, to a large extent, is used as a means of storage and investment, and not as a means of payment. This is also confirmed by the data of BitInfoCharts. The largest number of bitcoins - 92.78% is placed in wallets with balances of 1 bitcoin and above, which is only 2% (figure 4) of the total volume of crypto wallets. Accordingly, almost 98% of Bitcoin addresses contain less than 1 BTC.

74.6% of bitcoin owners hold less than 0.01 BTC (equivalent to ~\$350) on their balances, are more likely to use bitcoin as a means of payment, and are potentially among those interested in using Lightning Network.

Cryptocurrency wallets account for about 25% of the total volume of Bitcoin sales. The increasing popularity of cryptocurrencies as long-term investments and current financial assets has a direct impact on the increase in the number of users of crypto wallets.

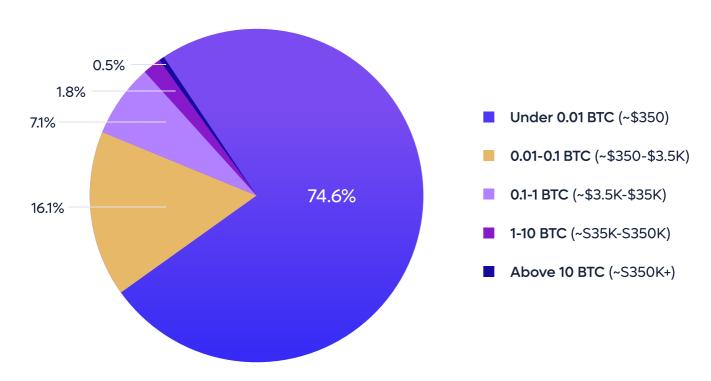


Figure 6: Bitcoin Addresses Grouped by BTC Balance Source: Bitinfocharts [171

According to BitInfoCharts [10] (as of November 6, 2023), there are more than 50 million Bitcoin addresses of crypto wallets, of which 13.5 million have a balance of less than \$3. More than 12 million wallets have a balance of \$300 or more. There are 1 million wallets with a current balance of more than \$35 thousands. BitInfoCharts provides data on almost 18 million inactive addresses, from which transactions have not been observed for the past seven years.

Bitcoin remains the most popular and most used cryptocurrency. The total market capitalization of all cryptocurrencies is \$1.32 trillion [11], of which almost half - \$678 billion - is occupied by Bitcoin. The market capitalization of Ethereum is three times smaller - \$218 billion, the top three is closed by Tether with a capitalization of \$84 billion. These three assets comprise 74% of the current market value of all cryptocurrencies combined. As of November 2023, there are 10,748 cryptocurrencies in existence. However, not all of these are active or valuable. Discounting the many "dead" assets leaves only around 8,848 active cryptocurrencies [12].

Among all types of cryptocurrencies, Bitcoin continues to occupy a leading position. In June 2023, its market dominance increased to 50%. Bitcoin continues to hold the same market share in the third quarter of 2023 [13].

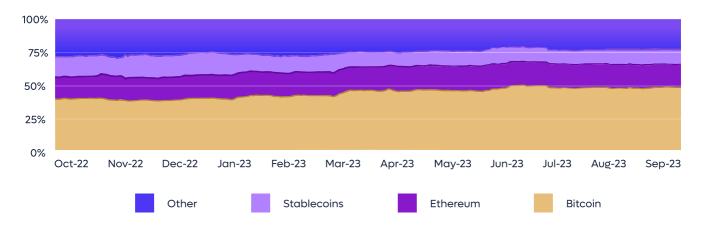


Figure 7: Crypto Dominance, Q3 2022 to Q3 2023 Source: Hashdex Research [25]

The use of Bitcoin as a transactional layer is steadily increasing and setting new records. For the first time since its inception, Bitcoin settled more than 40 million transactions in a single quarter in Q3 of 2023 indicating the growing influence and resilience of the network [13].

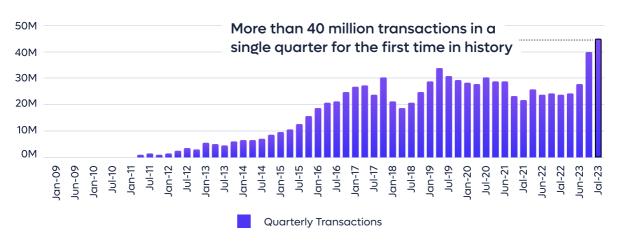


Figure 8: Quarterly Transactions on Bitcoin, Q1 2009 to Q2 2023 Source: Hashdex Research [13]

The introduction of the Lightning Network has become one of the significant factors influencing the revival and increase in payment activity using Bitcoin. The Lightning Network aims to provide an accessible way for users to engage in off-chain payments quickly and reliably by adding another layer to the Bitcoin blockchain. Lightning is built on the notion of payment channels, which allow two parties to lock up on-chain funds in the channel to transact without pushing their transactions to the blockchain. Each party can send a net value of up to the initial amount locked on their side of the channel [14].

Bitcoin revolutionized the system of financial operations. More than 2 billion people on the planet do not have access to banking services. Bitcoin provides an opportunity to get easy access to financial services using only a smartphone and access to the Internet. Lightning Network provides a way to use Bitcoin for more use cases. The accessibility and inclusiveness of the Lightning Network allow more individuals and companies with a small income level to become full participants in the digital economy. More than \$40 billion is spent annually on traditional money transfers. In comparison, Lightning Network fees are less than \$0.01 per transaction, creating a system of cost-effective financial transactions using Bitcoin. The Lightning Network solves the key problems of Bitcoin transactions - limited bandwidth, slow transactions, and high fees.

At the time of the release of the test version of Lightning Network, more than 1,000 nodes were working in the network and 1,863 channels were open. Today there are 14,608 nodes and 62,846 channels in the network. The changes in Lightning Network capacity over the past five years are presented in the diagram below.

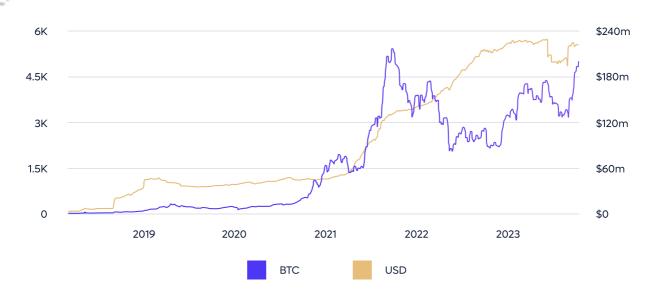


Figure 9: Lightning Network's Capacity Source: The Block Data [14] (as of 09 November 2023)

As can be seen from the chart, as of the beginning of November 2023, the capacity of the Lightning Network exceeds \$200 million and continues to grow. According to this estimates, more than 5,460 BTC are blocked on the Lightning Network. The network shows especially dynamic growth indicators in developing countries. There are several reasons for this, the main ones being the expanded capabilities for Lightning Network integration and availability in these regions, which allows for significant scaling of Bitcoin transactions.

The number of Lightning Network transactions in August 2023 was at least 6.6 million [2], equalling \$78.2 million in dollar terms. In comparison, the number of transactions on Bitcoin during the same period was 14.14 million with a total value in excess of \$224.87 billion.

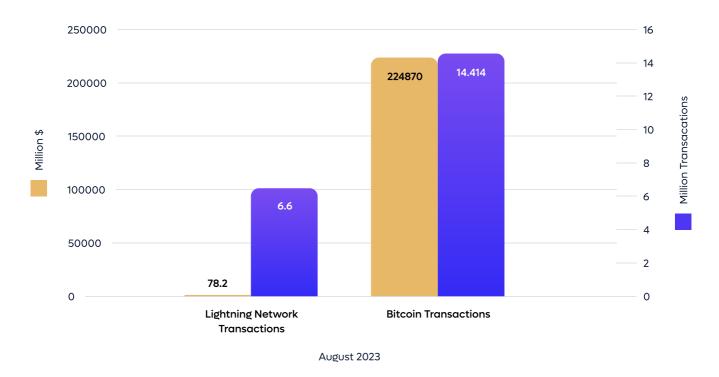


Figure 10: Total Volume of Bitcoin and LN Transactions in August 2023 Source: [2; 15]

According to the River research [2], the average Lightning transaction size on the public network was around 44.7k satoshis, or \$11.84 in August 2023. Size distribution shows that nearly all payments made on the Lightning Network would be unaffordable and/or economically unviable on the Bitcoin blockchain. Lightning effectively extends Bitcoin's utility by enabling low-value payments over the Internet.

The main players within the Lightning Network ecosystem are merchants accepting payments, developers building Lightning Network native projects, existing crypto companies adopting Lightning Network technology, wallet and gaming app developers focusing on consumer use cases, and users engaging in earning, stacking, tipping, and other micropayment activities. The growth of the ecosystem is driven primarily by Lightning Network native projects, focusing on building the infrastructure layer. Financial infrastructure and LiFi solutions are also significant segments [3].

It should be noted that in this section, we have not considered a significant part of the market that has the potential to spread the Lightning Network among a new audience. Specifically, mobile wallets, such as neo-banks like Cash App, which, despite not being a crypto wallet, integrated the Lightning Network and has 55 million users.

Why the Lightning Network is the "Next Big Thing" in iGaming Innovation

The gaming and gambling sector has a massive user base and thus, is a promising niche for expanding Lightning adoption. Almost 50% of crypto owners indicated that they are ready to spend their crypto assets on gambling and online Gaming [16].

Gaming is already the largest category within the Lightning ecosystem, followed by wallets and payments, and merchant services [2]. A recent joint report from data.ai and IDC reveals that the global gaming market is set to reach a staggering \$194 billion by the end of 2023 [16]. By 2027, the gambling market is expected to reach 233.7 million users.

Growth in the sector can be clearly observed in the data of iGaming company Softswiss, whose products are leveraged by "nine out of ten crypto gambling leaders" [17]. The data shows that users placed almost \$3 billion EUR in crypto bets with Softswiss in Q1 2021, with this number increasing over 116% to over \$6 billion in Q1 2022. In terms of volume, about 36 percent of bets placed in Q1 2022 were made in crypto, up from 26 percent a year earlier [17].

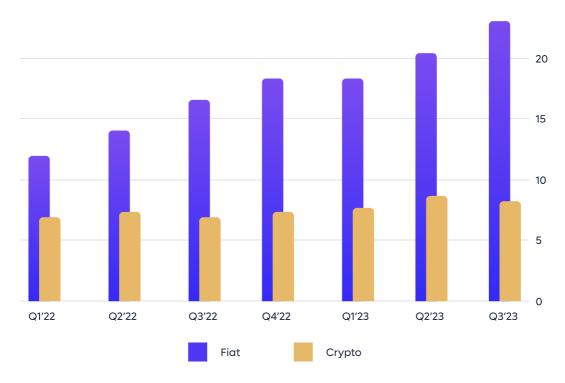


Figure 11: Bet Sums of Softswiss Clients 2022-2023 in bn \$EUR Source: Softswiss [18]

Several market leaders are taking an interest in crypto gambling, with some integrating payment methods like Coinspaid to enable crypto deposits. Others are opting to launch separate crypto-centric offerings to augment their existing products, such as Stake.com, Bitstarz, MBit, Rollbit, Duelbits, Roobet, and BC.Game [18].

Statistics on the most commonly used digital currencies in gaming show that the vast majority of people use a small number of well established cryptos. Bitcoin remains the most used by a wide margin, though its usage shows a slight downtrend in terms of overall percentage.

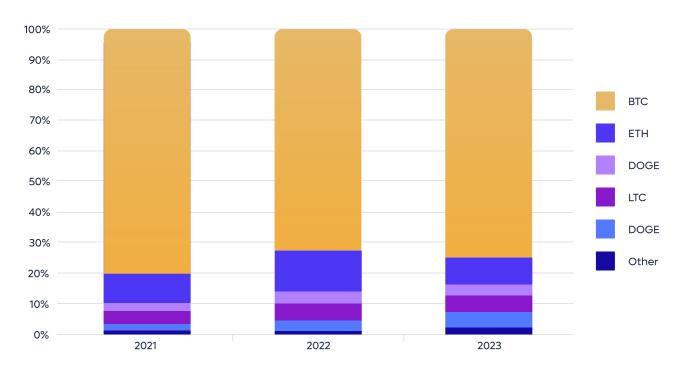


Figure 12: Top Digital Currencies Used in Gaming Bets Source: Softswiss [18; 19]

2022 was successful for ETH, as the currency strengthened its position by 3.7 percentage points. The switch from proof-of-work to proof-of-stake in September made way for lower transaction costs and increased scalability. As for DOGE, LTC, and USDT, their shares continue to grow gradually, showing players' stable interest in these currencies [18].

In 2023, Bitcoin continued to lead the pack with 74.9%, followed by Ethereum at 8.9%, Litecoin at 6.0%, Tether at 4.6%, and Dogecoin at 3.0%. Notably, Bitcoin has bolstered its dominance with a 3.9 percentage points increase compared to the first three quarters of the previous year, while Ethereum saw a 6.3 percentage point dip. For the last three years, Bitcoin has continued to be the most popular cryptocurrency among gamblers.

Using exclusive data from online casinos built on Softswiss, we analyzed the structure of user deposits over the last year. Almost 79% of customers deposit only \$10 - \$50 into their account at a time, and 99.7% of casino customers deposit less than \$500. Only 0.03% of customers deposit \$1,000 or more.

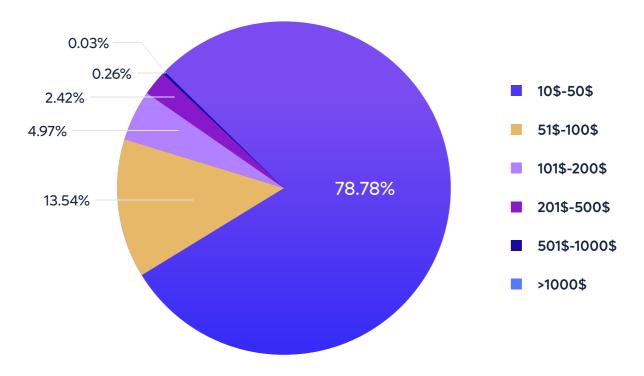


Figure 13: Online Casino Account Deposit Structure Source:[own contacts NDA brand]

A comparable pattern is expected to emerge across the entire gambling industry. Most online casino users stand to gain from adopting the Lightning Network, which offers quicker transaction speeds and lower costs for deposits and withdrawals. Lightning Network is poised to become a favored financial option for a broad spectrum of gambling users.

Stablecoins Join the Surge: Billions Flow Through Bitcoin's Lightning Network

Another important catalyst for the adoption of Lightning Network is the upcoming introduction of stablecoins to the Bitcoin blockchain.

According to Cryptorank, the market capitalization of stablecoins as of September 2023 is about \$131.5 billion. Dollar stablecoins are considered one of the main use cases of cryptocurrencies, in fact, an alternative banking system already exists based on them [20].

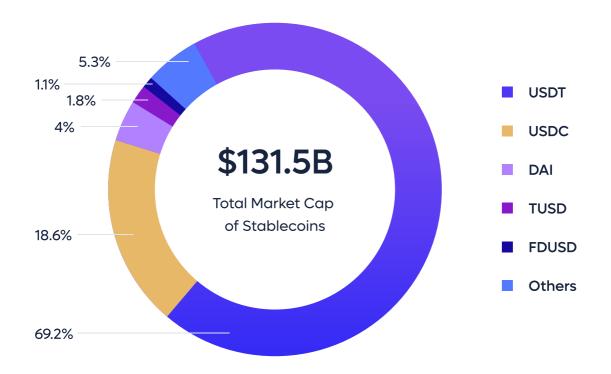


Figure 14: Top 5 Stablecoins by Market Share, 2023 Source: Cryptorank [21]

A key player in the emergence of the stablecoin market is Tether (USDT), whose market capitalization has recently reached a record level of \$85.46 billion. USDT increased its market share from 68.2% to 68.9%, while other stablecoins such as USDC, DAI, and TUSD declined or remained flat.

On August 17, 2023, the Tether team announced they are actively contributing to developing RGB, a client-side validated state and smart contracts system operating on Layer 2 and 3 of the Bitcoin ecosystem. RGB functions both on-chain (Bitcoin L1) and on the Lightning Network, promising unparalleled scalability [22].

RGB is a scalable and confidential smart contracts system for Bitcoin and Lightning Network. They embrace concepts of private & mutual ownership, abstraction, and separation of concerns and represent a "post-blockchain", a Turing-complete form of trustless distributed computing that does not require the introduction of "tokens". RGB is not a token protocol [23]. The key advantages of the RGB smart contract system are:

- protocol scalability and confidentiality due to data storage outside of Bitcoin transactions
- · security and determination of ownership rights
- use of single-use seals to verify the uniqueness of a smart contract
- multiparty coordinated state changes via Bifrost protocol over the Lightning Network

As a smart contract system, RGB is quite different from previous approaches but it proposes a more layered, scalable, private, and secure approach where the ownership of the smart contract state is separated from the smart contract creation. RGB will usher in a new era for digital assets, smart contracts, and digital rights, garnering comprehensive support from major players in the industry. Once USDT on RGB goes live, the world will witness USDT on another super-powerful and scalable Bitcoin layer [22].

Tron blockchain currently leads the market with the highest USDT transaction volumes. Over the past three years, the number of Tether transactions on Tron has surged by 13-fold.

Within the last year, the Tether token (ERC-20 and TRC-20) recorded an annual transfer volume surpassing \$5.139 trillion and a transaction count of 757.6 million. This growth trend is graphically represented below.

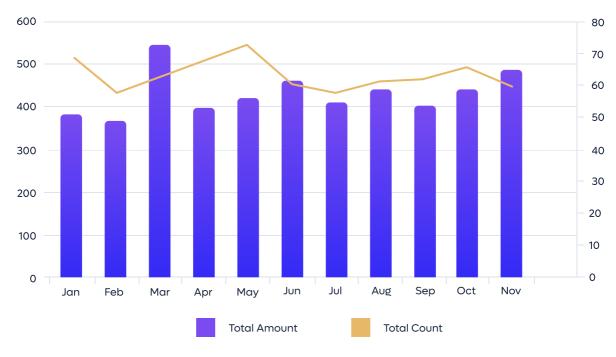


Figure 15: Tether Transfer Volume and Value, 2023 Source: Etherscan [24], Tronscan [25]

Throughout 2023, Tether (USDT) averaged a daily transfer count of 2.075 million transactions, totaling over \$14 billion per day. Monthly volumes consistently exceeded \$422 billion, with peak activity observed on Thursdays and Fridays.

The forthcoming RGB and Taproot Assets protocols will enable the creation of Lightning-compatible stablecoins. This presents an opportunity for a significant migration of USDT transactions from Tron and Ethereum to the Lightning Network, potentially involving billions of dollars daily [20].

If even 5-10% of Tether transactions move to the Lightning Network, annual turnover could reach \$257 - \$514 billion according to our forecasts. As users of stablecoins increasingly recognize the advantages of Lightning, these figures are expected to grow substantially.

The introduction of Tether (USDT) to the Lightning Network will be a pivotal moment, reshaping the landscape of the stablecoin market. Following Tether's lead, other stablecoins are likely to adopt the Lightning Network.

Conclusions

In this report, we have examined the available data and propose the following:

- · Lightning Network's base of potential users will reach 420 million in 2024.
- The adoption of Lightning Network by crypto exchanges has resulted in a significant increase in Lightning's potential user base. This trend is likely to continue by custodians exchanges follow the lead of industry leaders like Binance and OKX.
- An increasing number of crypto wallets are integrating, including 2 of the 10 most popular wallets in the industry (Exodus, and BitPay). Similar to dynamics affecting exchanges, we believe more wallets will continue to integrate LN.
- The Bitcoin network as a whole continues to grow and show strength, with a record number of transactions being recorded in 2023. Similarly, the Lightning Network itself continues to grow in both node count and capacity.
- At present, the Lightning Network is most effective for transactions between large custodians, as non-custodial users face challenges and higher costs in managing it, particularly in environments with elevated fees.
- Cryptocurrency use in online gambling and gaming is growing at a rapid pace, and will
 continue to do so. Since Bitcoin is the most popular crypto used for these purposes, and
 the majority of the deposits to these sites are in amounts less than \$50, we conclude that
 the Lightning Network will be increasingly adopted by igaming sites to offer users a fast
 and cost-efficient method to deposit cryptocurrency.
- RGB, the client-side validated state and smart contract system being built for Bitcoin, will bring stablecoins to both Bitcoin and the Lightning Network. This presents an opportunity for a significant migration of USDT transactions from Tron and Ethereum to the Lightning Network, potentially involving billions of dollars daily.
- In summary, the available evidence suggests that Lightning Network will continue to expand at a rapid pace in 2024 and beyond, offering opportunity to those who can build and utilize innovative solutions within the ecosystem.

References

- 1. The State of Lightning Volume 2 April 2022. Arcane Research.
- 2. The Lightning Network Grow by 1212% in 2 years. Why it's time to pay attention? October 2023, River.
- 3. A Review of the Lightning Network's Evolution: Unraveling Its Present State and the Emergence of Disruptive Digital Business Models
- 4. The State of Lightning October 2021. Arcane Research.
- 5. <u>Binance Reaches 150 Million Registered Users Despite Challenges. 2023.</u>
- 6. <u>Defying Crypto Turmoil, Manchester City Signs \$70 Million-Plus Sponsorship Deal With Exchange OKX</u>
- 7. Once again, Bitstamp is the world's top-rated centralized crypto exchange
- 8. Top Cryptocurrency Exchanges Ranked By Volume | CoinMarketCap
- 9. Bitcoin: Short-Term Holder Supply Glassnode Studio
- 10. Bitcoin distribution history
- 11. 12 Most Popular Types Of Cryptocurrency | Bankrate
- 12. How Many Cryptocurrencies Are There In 2024?
- 13. Market Pulse Q3 2023 Primers
- 14. Lightning Network's Capacity
- 15. Bitcoin Transactions Per Day (I:BTPD)
- 16. Cryptocurrency Ownership Data Triple-A
- 17. <u>Softswiss: Are crypto casinos the future of the gaming industry?</u>
- 18. iGaming Trends 2024: The Outlook for the Online Gambling Industry. Softswiss, 2023.
- 19. SOFTSWISS. State of Digital Coins 2022 recap
- 20. How does lightning scale Bitcoin?
- 21. Stablecoin Projects and Their Tokens Watchlist | CryptoRank.io
- 22. <u>Tether Makes Strategic Transition</u>, to <u>Meet Community Demands and Foster Innovation</u> | <u>Aug 17 2023</u>
- 23. What is RGB?
- 24. Tether USD (USDT) Token Tracker | Etherscan
- 25. TRONSCAN

Appendix 1 - Lightning Network access August 2023

Crypto exchanges	Million users	Approve LN
<u>Binance</u>	<u>150</u>	Official site
OKX	<u>50</u>	Official site
<u>Paxful</u>	<u>12</u>	Official site
<u>Kraken</u>	<u>10</u>	Official site
<u>zebpay</u>	<u>5,5</u>	<u>Article</u>
Bitstamp	<u>5</u>	Official site
RIPIO	<u>3</u>	Official site
<u>Nice</u> X	<u>2,5</u>	Official site
<u>Unocoin</u>	2,42	<u>Twitter</u>
CoinCorner	<u>2</u>	Official site
<u>OKcoin</u>	1	ArticleOfficial site
<u>SimpleFX</u>	<u>0,1</u>	Official site
BITFINEX	0,5	Official site
Rain	0,5	Official site
<u>buda</u>	0,5	<u>Article</u>
<u>BitcoinVN;</u> <u>VBTC Vietna</u> m	<u>0,076</u>	Article Article
<u>BitMex</u>	0,05	Twitter
Pouch.ph	0,01	Official site
BITAROO	No public info	Official site
River Financial	No public info	Official site
bull bitcoin	No public info	Official site
<u>PrimeBit</u>	No public info	Official site
BL3P	No public info	<u>Twitter</u>
Mt Pelerin	No public info	Official site
Coinfinity	No public info	Official site
Bitmart	9	Official site

Wallets

Custodial	Million users	Approve LN	Non-custodial	Million users	Approve LN
<u>Cashu</u>	<u>3,2</u>	<u>Article</u>	<u>Exodus</u>	<u>4</u>	Official site
<u>ZBD</u>	<u>0,5</u>	Article	<u>Bitpay</u>	<u>3</u>	Official site
<u>Wallet</u> of satoshi	<u>0,5</u>	Official site	<u>muun</u>	<u>0,1</u>	Official site
blink	<u>0,1</u>	Official site	phoenix	<u>0,05</u>	Official site
blue wallet	<u>0,1</u>	Official site	<u>Breez</u>	<u>0,01</u>	Official site
<u>SBW</u>	<u>0,1</u>		<u>Zeus</u>	<u>0,01</u>	Official site
Spark WALLET	<u>0,001</u>	Official site	<u>Blixt Wallet</u>	<u>0,001</u>	Official site
Speed Bitcoin Lightning Wallet	0,001	Official site	<u>Bitkit</u>	No public info	Official site
<u>Walletano</u>	No public info	Official site	Mutiny	No public info	Official site
<u>coinos</u>	No public info	Official site	<u>electrum</u>	No public info	Official site
<u>LifPay</u> App	No public info	Official site	<u>lipa</u>	No public info	Official site
<u>Machankura</u>	No public info	<u>Article</u>	<u>Nayuta</u>	No public info	Official site
LN. Tips	No public info	<u>Overview</u>	10101	No public info	Official site
<u>VIPSats</u>	No public info	Official site	<u>Bijli</u>	No public info	<u>GitHub</u>
Eclair wallet	No public info	Official site			

BillE

Financial services Million users Approve LN

Neobanks					
<u>CashApp</u>	<u>55</u>	Official site			
<u>Chivo</u>	<u>4</u>	<u>Twitter</u>			
<u>Strike</u>	<u>0,5</u>	Official site			
<u>bitnob</u>	<u>0,1</u>	Official site			
<u>Bira</u>	<u>0,1</u>	Official site			
<u>Belo</u>	<u>0,5</u>	<u>Article</u>			
XAPO BANK	1	Official site			
<u>Noah</u>	No public info	Official site			
Non-fiat exchanges					
<u>SouthXchange</u>	No public info	<u>Overview</u>			
<u>FixedFloat</u>	No public info	Official site			
<u>Sideshift.ai</u>	No public info	<u>Overview</u>			
Zigzag	No public info	Official site			
Other financial services					
Alby	<u>0,1</u>	Official site			
<u>CoinPayments</u>	1	Official site			
<u>AmberApp</u>	<u>0,1</u>	Official site			
<u>LNbits</u>	No public info	Official site			
<u>Joule</u>	No public info	Official site			
<u>Lightsats</u>	No public info	Official site			

Appendix 2 - List of Multichain Wallets without **Lightning Network***

Non custodial wallets

- Trust Wallet
- TokenPocket
- Robinhood Wallet
- 6 Crypto.com | DeFi Wallet
- Blockchain.com
- B SafePal
- Bitget Wallet
- Zengo Wallet
- M KEYRING PRO
- Binance Web3 Wallet
- ONTO
- MathWallet
- NOW Wallet
- Bitcoin.com Wallet
- Infinity Wallet
- 6 Coin98 Super App
- Arculus Wallet
- Chain Wallet
- Jade wallet
- (B) HaHa wallet
- Cypherock cySync
- CVL Wallet
- B Everspace Enjin Wallet
- Tokoin | My-T Wallet
- Burrito Wallet
- Coinomi
- Copiosa
- (i) Ancrypto (WEB3)
- Ballet Crypto
- UvToken
- Phantom 6 Coinbase Wallet
- PREMA Wallet
- OneKey
- Ø XDEFI Wallet
- Streakk Wallet
- Ultimate
- (B) Hippo Wallet
- Coingrig
- Mallet
 XFUN Wallet
- 6 Edge Wallet
- D'CENT Wallet
- (i) CoolWallet
- AirGap Wallet
- TK Finance
- MDAO Wallet

- Earth Wallet
- Haven Wallet
- Payperless
- 6 Shinobi-Wallet
- 6 KryptoGO Wallet
- B Slavi Wallet
- Zelus
- Defiant
- StrikeX Wallet
- 6 Locker Token
- Cryptnox Wallet
- Ownbit
- Monarch Wallet
- Wirex Wallet
- Nabox Wallet
- ApolloX
- 6 Enno Wallet
- B SafeMoon
- Bitizen
- Me Wallet
- THORWallet
- KeepKey Desktop
- Tangem Wallet
- Stickey Wallet
- FoxWallet
- Tellaw Wallet
- tomiPAY
- UKISS Hub
- 8 Xellar UTORG
- 6 CoinWallet
- Ammer Wallet
- Tidus Wallet
- RYIPAY
- Bitpie
- MOONSTAKE
- Unstoppable Wallet
- f(x)Wallet
- pockie

- 6 Kresus SuperApp
- TrustKeys Web3 SocialFi
- Best Wallet
- (B) HyperPay
- 6 Gem Wallet

- Cake Wallet
- BitFrost AT.Wallet
- Coininn Wallet
- Freewallet: Crypto wallet
- BitBox
- Ledge
- Guarda
- Luno wallet
- CeX.io Wallets
- Mycelium Bitcoin Wallet
- BitGo Cryptocurrency Wallet
- OKX Wallet
- Trezor
- Obvious
- Ambire Wallet
- αU wallet ABC Wallet
- Internet Money Wallet
- Ottr Finance
- Verso wallet
- Numio
- Cling Wallet
- Imota
- Fncy Mobile Wallet
- Cypher Wallet
- Status BlockWallet
- Essentials
- Rainbow
- Frontier Uniswap Wallet
- Zerion
- imToker
- Argent Spot
- MetaMask Safe
- MEW wallet
- 1inch Wallet VIVE Wallet
- Snowball
- Sahal Wallet ParaSwap Wallet
- MyWalliD
- Dawn Wallet Rabby wallet Nitrogen Wallet
- A4 Wallet Flooz

- **Custodial wallets**
- Trustee Wallet
- Talk+

Keplr

Xcapit

helix id

Brave Wallet

Qubic Wallet

MetaOne

3S Wallet

SimpleHold

Lif3 Wallet

Bifrost Wallet

Nufinetes

Wallet 3

iMe

Sender

SaitaPro

ByteBank

ioPay

iToken Wallet

Plasma Wallet

Okse Wallet

Paper wallet

Frame

Reunit

Tholos

Krystal

Okto

Altme

DIDWallet

Halo Wallet

Fizen Wallet

DGG Wallet

New Money

Qoin Wallet

Zeal

Pitaka

Gridlock Wallet

BeanBag

Gamic

SubWallet

U2U Wallet

Shido Wallet

PassPay Wallet

Cosmostation

MPCWallet

Slingshot Wallet

Holdstation Wallet

CoinStats

* Note that some of these apps may not meet the highest industry standards of security. This is not endorsement or financial advice, please do your own research

Legal Disclaimer

THIS DOCUMENT IS CREATED SOLELY FOR INFORMATIONAL PURPOSES. THIS DOCUMENT IS NOT INTENDED TO GIVE AND DOES NOT CONTAIN ANY SORT OF PERSONAL, LEGAL OR FINANCIAL ADVICE.

NOTHING IN THIS THE LIGHTNING NETWORK MARKET RESEARCH CONSTITUTES, OR IS INTENDED TO BE CONSTRUED AS, AN OFFER TO ISSUE, ALLOT, SELL, OR OTHERWISE TRANSFER, OR AN INVITATION, ADVERTISEMENT, SOLICITATION, RECOMMENDATION, ADVICE, OR INDUCEMENT TO INVEST IN OR MAKE A COMMITMENT TO INVEST IN, ANY SECURITIES, OPTIONS, OTHER FINANCIAL INSTRUMENTS OR VIRTUAL ASSETS, WHATSOEVER.

The main goal of this Lightning Network Market Research is to introduce the 2023's Milestone in User Growth for Lightning Payments and the Road is to introduce The Lightning Network: 2023's Dramatic Growth and the Road Ahead (the "Research").

Although this Research aims to provide the most relevant and accurate information, the information outlined in this document is only intended to provide general and preliminary information and shall not be construed as the basis of any investment decision or strategy. No representations or warranties have been made to the recipients as to the accuracy or completeness of the information of the Research.

Nothing in this Research can be considered or construed as forming part of the prospectus of any kind.

All liability for any loss or damage of whatsoever kind (whether foreseeable or not) that may arise from any person acting on any information and opinions contained in this Research or any information made available in connection with any further enquiries, notwithstanding any negligence, default, or lack of care, is disclaimed.

This Research is not directed or intended for distribution to, or use by, any person or entity who is a citizen or resident of, or located in a jurisdiction, where the brands and the logos appearing on this report are registered trademarks of their respective owners.