

# Bitcoin Payments

## *From Digital Gold to Everyday Currency*

### Co-Authored by

Danny Stagg, Breez

Dan O'Prey, 1A1z

### Thanks to

Jeff Booth, Alexandre Bussutil, Hong Fang, Dingchao Lu, Mas Nakachi





# Contents

<i>Executive Summary</i>	<b>01</b>
<i>Key Takeaways</i>	<b>02</b>
<i>Is Bitcoin “Just” Digital Gold?</i>	<b>03</b>
<i>Why It’s Time for Bitcoin Payments</i>	<b>04</b>
<i>The Rise of a Global Bitcoin Payment Network</i>	<b>05</b>
<i>Why Use Bitcoin for Payments?</i>	<b>07</b>
<i>Why Not Use Stablecoins?</i>	<b>11</b>
<i>How Regulators Treat Bitcoin</i>	<b>13</b>
<i>How Bitcoin Payments Are Used Today</i>	<b>15</b>
<i>The Bitcoin Payments Ecosystem</i>	<b>20</b>
<i>Summary</i>	<b>27</b>
<i>About the Authors</i>	<b>29</b>



# Executive Summary

**Bitcoin payments are here.** Across industries and countries, they're enabling real-time, peer-to-peer transactions without third parties. What was created to be electronic cash is now being used in everyday payments.

The maturation of the Lightning Network has further expanded bitcoin's utility, making transactions faster, cheaper, and more scalable than ever before — with the introduction of USDT on Lightning further elevating Lightning's role as the settlement layer for bitcoin payments. Whether for retail purchases, global remittances, or new digital payment models, bitcoin is proving itself as a real, everyday, working currency — not just a store of value.

## Key Takeaways

### 650+ Million Users Reached Worldwide

The Lightning Network now reaches over 650 million users; driven by integrations with mainstream products, new developer tools, and growing merchant adoption. But unlike traditional payment networks, its adoption has been largely organic, growing from the grassroots level. No one dictated that OKX, Kraken, Binance, or Coinbase integrate Lightning, nor was Cash App or Nubank required to support it. Instead, businesses adopted Lightning in response to real demand — laying the foundations for a truly global, open payment network.

### Internet-Native Payments

Product builders can now explore new groundbreaking ways to share value. Streaming payments, micropayments, and real-time global transfers are now possible, allowing developers to embed entirely new utilities directly into their products, reshaping how money and value is exchanged online.

### Real-World Impact

From major retailers to online platforms, businesses are proving bitcoin's real-world utility. Global companies like Pick n Pay, Namecheap, and Mercari have added bitcoin payments, showcasing the impact of bitcoin as a payment method, improving user experiences, reducing costs, and providing global accessibility. Whether in retail, remittances, or luxury goods, bitcoin is working as an everyday currency today.

This report highlights how bitcoin is evolving from a store of value into a true, everyday medium of exchange, laying the foundation for a new era of internet-native payments powered by an internet-native currency.



## Bitcoin Payments

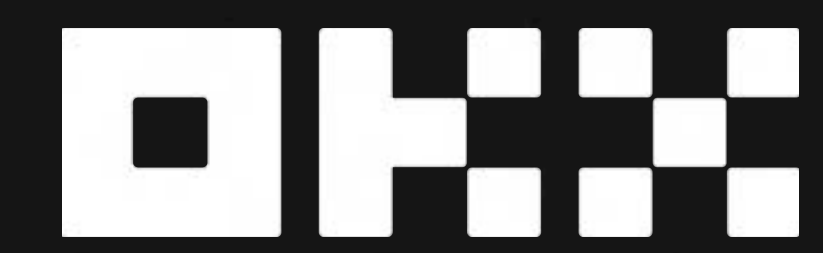
### *From Digital Gold to Everyday Currency*

#### Key Takeaways

**650M+**

users can now access the Lightning Network

coinbase



kraken

**3M+**

Mercari users that bought bitcoin to date



**86%**

Mercari users that were first-time bitcoin holders



**100K**

bitcoin payments on Mercari's marketplace in first 12 months



**\$73M**

revenue from bitcoin payments since 2020 at Namecheap



**1.1M**

bitcoin payments made by Namecheap users since 2020



**\$55K**

average monthly revenue from bitcoin payments at Pick n Pay



**+285%**

increase in total avg. monthly customers paying with bitcoin (2023 to 2024)





# Is Bitcoin “Just” Digital Gold?

The prevailing narrative around bitcoin is that it’s “digital gold,” a store of value designed to hedge against inflation and preserve wealth. When explaining new technologies, analogies to well understood comparisons are initially very helpful, but they can also be limiting in terms of understanding the full potential. Bitcoin has many similarities with gold, but also many key differences and entirely new possibilities. In the early 1990s, many saw the internet as a slight upgrade to existing technology — like interactive TV or a digital postal system — missing that it was an entirely new foundation for global communication and commerce.

Bitcoin’s market capitalization recently exceeded \$2 trillion, about one-tenth of gold, making it one of the most valuable assets in the world. Its limited supply and dramatic appreciation over the last decade have furthered its image as a store of value, but this is only part of the story. Bitcoin wasn’t created to sit idly in wallets or ETFs. Satoshi Nakamoto’s vision was clear: bitcoin is peer-to-peer electronic cash, a decentralized form of money designed to move.

A store of value wasn’t always the primary use case for bitcoin; it used to be a supporting narrative. Good money needed to be a good store of value in order to be a good medium of exchange. Early adopters tested this vision, using bitcoin to buy pizza, socks, and infamously illicit goods, before mainstream businesses like Microsoft and others lent credence to the new currency. It’s fair to say bitcoin’s early usage for payments wasn’t a roaring success, especially at a meaningful scale. Critics understandably declared its failure as a medium of exchange and that bitcoin could only succeed as a speculative asset.

This report revisits where bitcoin payments stand today. We address some of the challenges and misconceptions around why bitcoin may not be a good medium of exchange, what has changed, and how bitcoin is being used in novel ways to address them. We cover the businesses, developers, and even nation-states and presidents who are rediscovering bitcoin’s founding purpose: peer-to-peer electronic cash. We share case studies on some of the 14,000 merchants currently accepting bitcoin, remittance companies using bitcoin behind the scenes as a rail for fiat-to-fiat transfers, and national scale experiments in legal tender to evaluate whether bitcoin is moving beyond “just” digital gold to plug the gap and enable internet-native payments that were never possible before.

Like the internet’s early attempts at e-commerce, just because something didn’t work in the past doesn’t mean it never will. Capitulating after the dotcom crash would have led you to miss cloud computing, mobile connectivity, and the ubiquitous internet we know today.



# Why It's Time for Bitcoin Payments

The internet as we know it is built on a series of protocols, each specialized for particular use cases, such as email, file sharing, and the web. The core protocols were developed and standardized over decades starting in the 1970s. Like internet protocols, blockchain protocols come with tradeoffs: security vs. speed; cost and neutrality vs. functionality. Unlike other blockchains, bitcoin has always optimized for security and neutrality at its base layer and, like the internet, scales in layers with trade-offs for speed and functionality without compromising the main network. This meant that early bitcoin payments, while incredibly secure and permissionless, were relatively slow and often expensive compared to traditional technologies.

The first significant layer built on top of bitcoin was the Lightning Network. Lightning scales bitcoin to improve speed and cost by allowing users to exchange bitcoin directly among themselves without publishing each transaction to the broader network. This enables far greater throughput as the bitcoin network itself only needs to settle batches rather than individual transactions. By enabling real-time, low-cost transactions on a secondary layer, Lightning transforms bitcoin into the scalable medium of exchange initially envisioned.

But Lightning isn't just an improvement on bitcoin's early limitations; it's a catalyst for individuals and businesses to exchange value directly, from one peer to another, without intermediaries, in a way that differs fundamentally from conventional fiat currencies. Alongside this paradigm shift, Lightning unlocks entirely new utilities that weren't possible before, like streaming payments for pay-per-use services, microtransactions that make even the smallest exchanges viable, and continuous payments that bring new possibilities to global commerce. These innovations represent a fundamental shift in how value is exchanged, as bitcoin is the only global, decentralized internet-native currency.

However, like the early days of bitcoin payments, the early days of Lightning were not without their own challenges. Critics pointed to complex channel management, the need to provide and manage liquidity, and reliance on custodial solutions which are counter to the ethos of bitcoin. While some of these criticisms were fair, many stemmed from unrealistic expectations during the network's nascent stages. Increasingly, those narratives no longer reflect reality, as the Lightning Network gathers ever more mainstream adoption and usage.



# The Rise of a Global Bitcoin Payment Network

In six years, Lightning has become the “common language” of the interoperable bitcoin economy — connecting products, subnetworks, enterprises, and end-users. But its success hasn’t been accompanied by grand announcements or corporate campaigns. Instead, adoption is happening organically, landing in the hands of millions. People are using Lightning to pay for a beer at their local pub, to move money across borders, and to integrate real-time, low-cost payments into apps, exchanges, and financial platforms.

## Over 650 Million People Can Access Lightning

*Notable Integrations of the Lightning Network*

 **coinbase**

110M+

 **BINANCE**

200M+



50M+

 **Cash App**

57M+



100M+

 **kraken**

13M+

 **KUCCOIN**

34M+

 **HTX**

49M+

 **Bitso**

8M+

 **ripio**

5M+

 **bithumb**

8M+

 **BITFINEX**

3M+

 **paxful**

14M+



The infrastructure to build with Lightning is vastly more mature than just a couple of years ago too, with a range of services enabling bitcoin payments — each offering different trade-offs in security, usability, and regulatory exposure. Some services, like [Strike](#), [Blink](#), [OSMO](#), and [SAF](#), abstract bitcoin from the user experience, using it as a backend settlement layer while handling fund movement and compliance on behalf of users. Others, like [Lightspark](#), [Ibex](#) and [Voltage](#), provide platform-as-a-service solutions, offering businesses the tools to integrate Lightning without managing the underlying infrastructure. For those looking to give users full control of their money, there are now self-custodial Lightning services like [the Breez SDK](#), where developers can add bitcoin payments directly into apps, removing the need for third-party involvement altogether.

In addition to the growing infrastructure supporting the development of bitcoin payments, [USDt's arrival on Lightning](#) is set to further accelerate adoption. Users will now be able to pay in USDt and settle in bitcoin without needing to leave the network, making them natively compatible and interchangeable. This strengthens Lightning's role as the settlement layer for bitcoin — reinforcing its position as the [common language](#) of the bitcoin economy — providing consumers with more options, like using USDt to pay merchants that accept bitcoin.

Every approach plays a role in bringing bitcoin payments to more people, connecting them to the wider ecosystem, and unlocking new possibilities for payments in everyday applications. So, while price appreciation grabs the headlines, and store of value dominates the narrative, the [\\$2 trillion of value](#) held in bitcoin can now be unlocked with Lightning to enable real-time, low cost, borderless payments without intermediaries, natively on the internet.

As financial transactions continue to move online, the need for an open, internet-native payment system has never been greater. Lightning fills this gap, making global transactions as easy as sending a message. So, if the internet has reshaped how we communicate, bitcoin and Lightning can do the same for how we transact value — unlocking an economy that moves at the speed of information.



# Why Use Bitcoin for Payments?

## Internet-Native Payments

Bitcoin payments do not just replace the current system, they add utilities that are impossible with conventional payment technologies. With self-custody and Lightning at the center of this innovation, moving small amounts of money is now as simple as sending an email.

Traditional payment rails, like credit card networks, are unsuitable for micropayments and streaming payments due to high fees and inefficiencies. Flat and pro-rata costs often exceed the value of small transactions, while slow settlement times make real-time payments impractical. Centralized intermediaries add barriers like regional restrictions, fraud risk, and minimum thresholds, further limiting their use for low-value, high-frequency payments.

The Lightning Network enables fast, low-cost payments by settling off-chain while leveraging bitcoin's security. This makes real-time micropayments possible, as seen with [Nostr zaps](#) where users can send tiny amounts of bitcoin to support other users and creators, [with nearly 22 BTC zapped to date, according to Primal](#). Lightning's technology, paired with low fees and scalability, also allow for entirely new payment methods, like [continuous payments for services like streaming media](#), and removing the need to prefund accounts altogether.



## Microdeposits for Gaming with THNDR

[THNDR](#) enables skill-based wagering games to be integrated into any website or app, with deposits and payouts all exclusively powered by bitcoin. Because Lightning enables deposits under a dollar, users do not need to prefund their accounts, THNDR doesn't need to take custody of users' funds, as users can pay for individual wagers. Uneconomical with traditional payment methods, this also broadens the addressable market of users worldwide.

In just under 3.5 years, THNDR has processed over 7.5 million bitcoin payments. We asked co-founder Jack Everitt whether accepting only bitcoin payments is clearly the path forward: **"No one is requesting alternative payment methods to bitcoin, which is a positive sign"**.

**7.5M**

bitcoin payments  
processed

**289M**

satoshis rewarded  
in 3.5 years



## Cheaper Transactions

Traditional payments are expensive — one of the greatest tricks of credit card networks and issuing banks was to make payments 3.5% more expensive in order to give consumers 2% back in rewards. Cross-border remittances are even more expensive, averaging 6.2% but often over 10% in some corridors, with fees again hidden from consumers in the exchange rate.

Bitcoin changes this paradigm entirely. Moving money electronically no longer needs to be expensive, and paying to take payments in a devaluing currency becomes increasingly difficult to justify. Bitcoin payments are borderless and provide financial efficiency that traditional systems have long lacked.

Whether it's sending millions on-chain or leveraging the Lightning Network for smaller transactions, funds can move globally at a fraction of the cost. For instance, transferring hundreds of millions of dollars on-chain can cost less than \$10, and smaller bitcoin payments using Lightning can settle in real-time for fractions of cents.

A yellow circular logo with the word "PUBKEY" in black, bold, sans-serif capital letters.

### Burgers, Beers, and Bitcoin at PubKey

PubKey, New York City's only bitcoin bar, wanted to showcase bitcoin as a medium of exchange for the everyday user. Since opening its doors in January 2023, the bar has been a hub for bitcoiners across the United States, and during the U.S. 2024 presidential campaign, the pub hosted a seminal event in bitcoin history when President Trump became the first ever US president to make a purchase with bitcoin, ordering a burger and paying over the Lightning Network.

Beyond the strong community that's developed, the introduction of bitcoin payments has helped reduce the costs of doing business. By eliminating the need for costly middlemen and costly credit card fees — 3.5% and more in some cases — every beer purchased with bitcoin saves the bar ~\$0.25 per transaction.





## Real-Time Settlement

Again, from the consumer perspective, payments are authorized near-instantly, but the actual settlement for the recipient can take days or weeks depending on the countries and intermediaries involved. Cross-border payments take even longer, usually relying on a complex system of correspondent banks to facilitate each hop in a transfer. By contrast, because bitcoin is an internet-native bearer instrument, payments over Lightning typically settle within milliseconds, making the funds instantly available.



### Eliminating Chargebacks with The Water Project

The Water Project provides access to clean, safe, and reliable water across sub-Saharan Africa and not only benefits from bitcoin's global nature, but also its finality. While rare, credit-card chargebacks can be extremely costly for non-profits as they not only undo the donation but impose additional fees. Bitcoin payments are final and irreversible, providing certainty, reducing administrative overhead, and eliminating fees associated with chargebacks. Furthermore, the president of The Water Project, Peter Chasse, said bitcoin donors have "brought new energy and opportunity to our mission," with their contributions having "the potential to transform how we work."

## Open Network

Traditional finance is built upon closed networks, and the lack of interoperability between these networks means you're either shut in or, worse, shut out. Bitcoin offers permissionless, peer-to-peer payments, overcoming the increasingly pressing obstacles that traditional payments face. Concerns about access to the financial system being weaponized against law-abiding citizens or companies was once limited to authoritarian regimes. However, events like Operation Choke Point 2.0 in the USA and the freezing of assets during the Trucker Protest in Canada show that the political misuse of banking can become a potential global issue.



### When Proton Was Shut Out

Proton, a leading privacy company with over 100 million Proton accounts and a suite of products including Proton Mail, Proton VPN, and many more, discovered this early when they were forced to accept bitcoin payments in response to PayPal freezing the company's funds. Andy Yen, co-founder of Proton, commented on the incident: "When we pressed the PayPal representative on the phone for further details, he questioned whether ProtonMail is legal and if we have government approval to encrypt emails. It seems PayPal is trying to come up with any excuse they can to prevent us from receiving funds." Today, the company continues to support bitcoin payments, as it has since 2016, and has just released Proton Wallet, a self-custodial bitcoin wallet.



## Global Access

Access to financial services is not evenly distributed throughout the world nor even within the same country. Availability of credit cards, payment processing services, and even basic banking is still scant in many parts of the world, including developed nations, with 5.6 million households in the U.S. completely unbanked. This problem is further exacerbated in regions with authoritarian regimes and societal oppression.

But the issue goes far beyond serving the unbanked. It's about providing effortless value transfer across jurisdictions. Cross-border remittances, for example, are often burdened by high fees, delays, and a lack of interoperability. With bitcoin payments, someone in the U.S. can send funds in real-time to a creator in South America, completely bypassing third parties by accessing a truly global financial system.



### How Bitnob Is Transforming Financial Access

Bitnob harnesses the Lightning Network to dismantle the barriers created by high remittance fees and restrictive banking systems. For many, sending money home to loved ones has meant saving up large sums just to justify the cost of a single transaction, effectively shutting them out. But paying with bitcoin over Lightning changes everything. As Bernard Parah, CEO of Bitnob, puts it: "The same way [someone] pays for a cup of coffee in New York City is the same way [they] can now casually send \$10 back home in Nigeria." With Bitnob, cross-border payments become quick, simple, and affordable, unburdening users and transforming a significant challenge into an everyday convenience.



# Why Not Use Stablecoins?

Stablecoins are popular alternatives to legacy fiat currencies. In Q2 2024, stablecoins amassed over \$8.5 trillion in transaction volume across 1.1 billion transactions — more than double Visa’s \$3.9 trillion in transactions during the same period.

There are two reasons for this popularity. First, they let individuals and entities that lack access to mainstream fiat banks and payment networks transact in fiat-denominated values. Second, many users seem attracted to the novelty of cryptocurrencies but simultaneously fear it: a confluence of FOMO and FUD. Stablecoins offer a media that combines some desirable features of crypto, such as blockchains and ‘buzz’, with the (perceived) benefits of fiat, like price stability. However, like many things that try to combine the best of two worlds, stablecoins display many disadvantages of both.

## They’re Not Digitally Native

Stablecoins are not digitally native. Rather, they are digital representations of non-internet native assets like the US dollar, essentially IOUs that promise to be redeemable for reserves held in the traditional financial system. Having correlates in the traditional economy might seem like a positive attribute of stablecoins, but it in fact adds to their vulnerability. Assets whose value is purely intersubjective and independent of traditional assets — like bitcoin — cannot be devalued. Their value is purely a matter of market consensus.

With stablecoins, however, the stability of their value derives from the reserves of their issuers, so if the value of the assets contained in those reserves plummet, then so does the value of the coin. More than 99% of all stablecoins are pegged to the U.S. dollar, which exposes them to whatever may affect the dollar’s value, ranging from central-bank policy to foreign and domestic political shocks — leading stablecoins to suffer the same defects of many fiat currencies.

## Centralization & Regulatory Uncertainty

Since stablecoins’ value is backed by reserves of other assets, a custodian must maintain those reserves, and such custodians introduce a dilemma familiar to many other crypto ventures. On the one hand, the custodian could be subject to regulation and oversight. While this protects the stablecoins’ holders from counterparty risk in the form of corruption or incompetence, it also makes the stablecoin more vulnerable to censorship. On the other hand, the custodian could resist or avoid regulation, which insulates the stablecoin’s holders from censorship but exposes them to the risks of entrusting their wealth to an unaccountable counterparty.



By contrast, bitcoin relies on no reserves and no counterparty. Its decentralized network makes it resistant to censorship without exposing its holders to counterparty risk — unlike stablecoins, which remain high-value targets for regulators due to their custodians and popularity in illicit transactions. While their regulatory future is uncertain, one thing is clear: more oversight means higher costs and a greater risk of censorship.

### **MiCA: When Regulation Shifts**

The new European MiCA regulation will affect stablecoins along with other crypto custodians. In effect, the regulation acknowledges that these assets imply counterparties with fiduciary duties and treats these counterparties accordingly, subjecting them to regulation comparable to that covering banks and other asset managers.

As a result of MiCA, several exchanges have already delisted USDt — the most popular stablecoin by far — and a number of other comparable stablecoins. Whether or not this regulation is sensible, it represents a massive disruption for many crypto businesses and countless users.



# How Regulators Treat Bitcoin

Bitcoin is universal and borderless, but tax codes, business licenses, and financial regulations are not. This has led to a fragmented regulatory patchwork, where different countries take vastly different approaches, ranging from full legal recognition to outright bans. The table categorizes national attitudes toward bitcoin, from friendly jurisdictions with minimal restrictions to hostile environments where its use is effectively prohibited.

<u>Snapshot of Regulatory Approaches to Bitcoin</u>		
<b>Friendly</b>	<i>Legal, minimal restrictions, favorable tax treatment</i>	El Salvador, Germany, Switzerland, Portugal, Singapore, Malta, Slovenia
<b>Legal</b>	<i>Legal, moderate restrictions, tax implications</i>	USA, UK, Canada, Australia, Japan, South Korea, France
<b>Unclear</b>	<i>Ambiguous regulations, legal grey zone</i>	Nigeria, Pakistan, Iran, Turkey
<b>Restricted</b>	<i>Legal, heavy restrictions, bans on certain activities</i>	China, India, Russia, Vietnam, Ecuador
<b>Prohibited</b>	<i>Illegal, effectively banned</i>	Algeria, Morocco, Nepal, Bangladesh, Bolivia, Egypt

These national stances shape how bitcoin is legally treated — whether as legal tender, a private currency, an asset, or banned altogether. Next, we explore the 4 broad approaches to bitcoin among governments and regulators around the world and their impacts on bitcoin’s usability for payments.



## Legal Tender

The most bitcoin-friendly regulatory approach is to make it legal tender, meaning that it is recognized in law as a means to settle debts. El Salvador became the first country in the world to do so in 2021, and after just a month more Salvadorians had bitcoin wallets than traditional bank accounts. The Central African Republic followed suit, but repealed the law after just a year due to international pressure. El Salvador also backtracked to a lesser degree, rescinding the requirement for merchants to accept bitcoin and deprecating their government managed wallet, Chivo. As with bitcoin payments generally, these legal-tender experiments are very early and their success does not necessarily reflect the future opportunity.

## Private Currency

In some jurisdictions, like parts of the EU, bitcoin is considered a “private currency,” putting its tax treatment broadly on par with traditional currencies. In Germany, short term gains under €1000 and long-term gains on assets held for over a year are tax-free, as well as income under €256. So while bitcoin is not officially sanctioned as legal tender, its tax treatment makes it readily usable for payments.

## Property

In jurisdictions like the US, bitcoin is considered an intangible asset and therefore subject to capital gains tax like any investment in property or commodities. This treatment adds considerable friction to payments, as each use of bitcoin triggers a tax event. Further, it is complicated to determine the tax basis for gains if bitcoin spent was purchased at different prices. This approach furthers the perception in these jurisdictions that bitcoin is a store of value and unsuitable for payments, like gold.

## Banned

Finally, some jurisdictions, like China and North African countries, ban bitcoin outright or limit its use to price exposure rather than as a means of payment. For example, in Egypt merely holding bitcoin is illegal and subject to imprisonment or fines between 1 and 10 million EGP (~\$20,000-\$200,000 USD). Since 2021, China has banned all bitcoin mining and transactions, meaning Chinese citizens may only legally trade bitcoin like a stock on an exchange without being able to deposit, withdraw, or transfer it.

## Outlook

Like the technology on which bitcoin payments operate, regulation evolves relatively rapidly, and there are many encouraging signals. For example, Europe’s new MiCA regulation provides keenly needed guidance for entities managing cryptocurrencies in the EU, but it crucially regulates those providing services, not the assets themselves. Similarly, the discourse surrounding bitcoin and crypto was far more positive preceding the 2024 American election than in previous election cycles, and the crypto-friendly candidate won.



# How Bitcoin Payments Are Used Today

Transferring bitcoin can come in many forms, with each use case addressing different challenges and presenting different opportunities. Below we summarize some of the areas with the most traction, from supporting trading, being used as a settlement rail for fiat, enabling global donations, to being used as an internet-native currency.

## Bitcoin for Trading

As discussed, the prevailing use case for bitcoin today is as a store of value and speculative asset. As such, one of its most prevalent uses is transferring assets to, from, and between exchanges. Lightning enables instant deposits and withdrawals, and as mentioned previously, some of the most significant adoption thus far has been from major exchanges like OKX, Coinbase, and Binance.



### Instant Trading with Lightning on LN Markets

LN Markets, a leading spot- and options-trading platform for bitcoin built on Lightning, saw a 445% year-on-year (2023 to 2024) increase in volume and 640% growth in revenue, driven by its provision of instant deposits, withdrawals, and trade settlements. Unlike traditional platforms that rely on slow fiat rails, LN Markets allows users to trade directly from their wallets, bypassing bank delays, high fees, and liquidity constraints. Instead of waiting days for funds to clear, traders can deposit, trade, and withdraw in seconds, making the platform uniquely suited to high-frequency trading.

In fact, co-founder Romain Rouphael said that “using bitcoin overcomes many financial bottlenecks,” as Lightning removes the need for complex banking integrations and eliminates settlement delays. Achieving such efficiency in fiat markets would present “a huge challenge” due to counterparty risks and slow-moving infrastructure. LN Markets’ users, he added, find Lightning “surprisingly easy to use” and “love the freedom it gives them,” as they can trade without third parties slowing them down.

**445%**

YoY increase  
in volume

**640%**

YoY increase  
in revenue



## Bitcoin as Rails

Most of the world still needs fiat currency to facilitate everyday spending. A common critique of bitcoin for payments is that its price is too volatile for merchants and many consumers to hold. But this doesn't have to be the case. Many payment solutions automatically convert bitcoin into fiat, neutralizing volatility. Increasingly, companies are leveraging the benefits of Lightning's borderless and instant settlement without exposing end users to volatility by circumventing users' possession of bitcoin and instead using it to transfer value between currencies.



### Bitcoin Behind the Scenes with OSMO

OSMO addresses financial challenges across Guatemala, Mexico, Costa Rica, and soon El Salvador by allowing users to benefit from bitcoin's speed and efficiency without technical sophistication. In fact, Piero Coen, OSMO's co-founder and CEO said: **"Most of our users don't even know they're using bitcoin,"** because OSMO allows users to hold and send fiat currency from one country to another, with OSMO handling conversion to and from bitcoin behind the scenes. "Traditional bank transfers can take five days and cost you an arm and a leg. Bitcoin wasn't just better money; it was also the infrastructure that could let us move value instantly across borders with minimal cost." This has allowed OSMO to expand its reach among freelancers, digital nomads, and unbanked users. The startup also supports merchant payments, as interest grows in tandem with their remittance product.

## Bitcoin for Donations

Another sector that has seen significant adoption of bitcoin payments is donations to nonprofits. As of January 2024, The Giving Block reported that \$2 billion had been donated using cryptocurrencies, with over 50% of the largest charitable organizations in the USA accepting bitcoin. Even Ukraine started accepting bitcoin donations to help its defense against the Russian invasion. Bitcoin allows anyone to donate directly to causes they care about, bypassing intermediaries, with minimal fees, and ensuring donations reach their destination even in high-risk or restricted regions where traditional payments fall short.



### Multiplying Donations with charity:water

Bitcoin has proven valuable for charity:water as a fast, low-cost, and borderless donation method. "Bitcoin transactions often have lower fees than credit cards, which provides significant value to us," said Ben Greene, the CRO of charity:water. Unlike traditional payment methods, accepting bitcoin payments allows for real-time, censorship-resistant donations from anywhere in the world, ensuring funds reach the cause without banking delays or high processing costs. In 2021, charity:water announced the Bitcoin Water Trust, taking a long-term approach by holding donations until 2025. The move has paid off — initial contributions of just under \$4 million have grown to over \$10 million, more than 2.5x appreciation. "The multiplier effect of bitcoin has been profound," Greene noted. "Donations that once helped a few dozen people now have the potential to transform thousands of lives."



## Bitcoin as Currency

Bitcoin was envisioned as "peer-to-peer electronic cash" by its creator, Satoshi Nakamoto. Today, it's not just a speculative asset but a functional medium of exchange, used by individuals and businesses to conduct everyday transactions.

In this section, we explore how bitcoin is being used as a currency in real-world contexts. From transforming e-commerce platforms to enabling real-time, cost-effective payments in physical stores, bitcoin is bridging the gap between theoretical promise and practical application.

Businesses of all kinds are embracing it — not just for everyday purchases but for high-end goods as well. While platforms like Mercari have brought bitcoin payments to millions in Japan, and retailers like Pick n Pay are making it viable for daily spending in South Africa, luxury brands such as Hublot and Ferrari are demonstrating that bitcoin isn't just for smaller transactions — it's also being used to buy everything from designer watches to supercars.

These stories demonstrate that bitcoin is no longer just a store of value; it's developing into the currency that it was always meant to be.



### From Trading to Payments in Japan with Mercari

Mercari is Japan's leading online marketplace with over 23 million users. In March 2023, Mercari launched a bitcoin trading service to allow first-time users to "easily and safely engage with bitcoin" making "bitcoin accessible to everyone." By integrating bitcoin into the Mercari app, the company wanted to show users that "**bitcoin can be used for everyday activities like shopping,**" and "truly experience" its value.

**86%**

of users were  
first-time bitcoin holders

**100K**

bitcoin payments in the  
first month of launch

**3M+**

users bought  
bitcoin to date

It was a huge success. In just 12 months, the service attracted over 2 million users. To build on this momentum, in February 2024, Mercari introduced bitcoin as a payment method on its marketplace. And like the trading service, it was *also* a success. In the first month of release, Mercari saw over 100,000 bitcoin payments on their marketplace, yet again demonstrating the interest in bitcoin among the wider public.





## Internet Domains for Internet Money with Namecheap

Namecheap integrated bitcoin payments back in 2013, and five years ago they enhanced their bitcoin payment offering through BTCPay, providing trustless payments processed directly to Namecheap without any third-party involvement.

**\$73M**

revenue from  
bitcoin since 2020

**23%**

increase in revenue  
per user in 2024

**1.1M**

# of transactions  
since 2020

Namecheap achieved +23% growth in revenue per user compared to 2023, reaching \$146.55, showing bitcoin payments' ability to attract high-value transactions. These bitcoin payments have also become a significant revenue generator for Namecheap, showing that when given the option, users want to pay with bitcoin, and that's good for business.



## Bitcoin at the Checkout with Pick n Pay

Pick n Pay (PnP) became the first major African retailer to accept bitcoin payments in February 2024. Through a partnership with MoneyBadger, customers can pay for goods, utilities, and clothing using bitcoin directly at the register. Pick n Pay had first explored bitcoin payments in 2017 but faced challenges. Revisiting bitcoin payments over Lightning in 2022, the response greatly exceeded expectations, with Lightning solving both lowering fees and accelerating processing times.

When asked why they opted for bitcoin payments, Carel van Wyk, founder and CEO of MoneyBadger explains, "**Lightning payments are currently the fastest payment method at the till, comparable to 'tap-to-pay' card payments, with lower fees than credit or debit cards.**" He added that there are customers who "prefer shopping at Pick n Pay because they can now pay with bitcoin."

**2.8x**

increase in total  
avg. monthly bitcoin  
payment volume

(2023 to 2024)

**\$55K**

avg. monthly  
bitcoin volume  
in Mar 2024

**285%**

increase in total avg.  
monthly customers  
paying with bitcoin

(2023 to 2024)





## Buying Furniture with Mondo Convenienza

Mondo Convenienza, a leader in Italy's furniture sector was one of the first in the country to implement bitcoin payments back in July 2022. The move was driven by a desire to target new audiences (specifically millennial and Gen Z) and take advantage of the high taxation on cryptocurrencies in Italy, which encourages holders to spend.

As a result of integrating bitcoin, the company maintained its competitive edge in a challenging market, achieving 10% growth between September and November 2024 — with the performance of bitcoin payments closely following market trends, seeing higher usage during bullish periods and decreased activity during bear markets.

**~€500K**

total annual turnover  
from crypto payments

**+10%**

growth in bitcoin payments  
from Sep to Nov 2024



## Online Gaming with Imperia

Imperia Online JSC is a leading developer in Europe's online gaming industry. Their flagship title *Imperia Online* is a multiplayer, online, real-time, strategy game of medieval warfare and politics.

The game introduced bitcoin payments for players in 2018, as they were looking for a way to provide their international player base with more flexibility to pay. Operationally, it was "a no-brainer" because bitcoin payments generally offer a more cost-effective solution, with lower fees and quicker processing times compared to traditional methods like credit cards and bank transfers.

Since implementing bitcoin as a payment method, the company has seen a 284% increase in transaction volumes from 2022 to 2023, followed by an additional 4% increase in 2024, showing growing adoption and continued interest in bitcoin among their player base. The company also shared that feedback regarding bitcoin payments has been "overwhelmingly positive," with users expressing an interest in "further integration" of bitcoin into gameplay.



# The Bitcoin Payment Ecosystem

This report covers many case studies of successful businesses that benefit from accepting bitcoin payments, but the biggest sign of the strength of the ecosystem is that there are just too many to cover. Even in this section as we summarize and highlight some of the key players in each category, we cannot be comprehensive. Building on case studies that we have highlighted, this section provides additional color into the companies and categories that are driving the adoption of bitcoin as a medium of exchange.

## Node Software

Foundational to the success of bitcoin payments are Lightning Node Clients, the software implementations that allow users and businesses to interact with the Lightning Network. There are several different clients each supported by companies in the ecosystem:

- The primary Lightning Node Clients are LND (Lightning Labs), Core Lightning (formerly C-Lightning, Blockstream), Eclair (ACINQ), and LDK (Spiral, a bitcoin-focused division of Block). These implementations provide the backbone of Lightning's infrastructure and other initiatives include Lit/LNDK (MIT's Digital Currency Initiative), LNP, and Electrum.

LND

CORE  
LIGHTNING

eclair

LDK

ELECTRUM

LND

- In addition to the primary maintainers above, many other organizations support the development of Lightning clients through employment and open source grants, including the Human Rights Foundation, OpenSats, Brink, OKX, and Chaincode. For more on these organizations (and others), see [1A1z's prior report on Bitcoin Core Development Funding](#).

OKX

Human  
Rights  
Foundation

chaincode

&gt;\_OpenSats

brink



## Liquidity & Service Providers

Other critical areas for enabling businesses to accept bitcoin payments are companies that provide liquidity, hosting and Lightning-as-a-Service platforms for other companies to build on top of:

- **Exchange and Brokerage**, as previously covered, many bitcoin and crypto exchanges and brokerages already support Lightning today. In addition to enabling Lightning for deposits and withdrawals, this brings Lightning wallets that can be used to make payments to hundreds of millions of users. Further, these exchanges act as liquidity providers to other companies, facilitating the low cost conversion between bitcoin and fiat currencies to serve as on and off ramps for consumers in local markets.



- **Lightning Liquidity providers** like **LQWD** and **Lightning Network+** also provide liquidity to the network serving as onramps or providing network connectivity to route payments through the Lightning Network. **Lightning Labs's** Pool and **Amboss's** Magma are marketplaces to match liquidity providers and consumers.



- **Hosted Services** such as **Blockstream's Greenlight**, **Voltage**, and **Blockdaemon** allow businesses to leverage Lightning in a custodial or self-custodial fashion without having to manage the technical infrastructure of running a Lightning node themselves.



- **Lightning-as-a-Service** solutions offer full operational support for channel and liquidity management alongside infrastructure operations. Leading providers include self-custodial solution **Breez**, bitcoin brokerage **River**, crypto platform **Zerohash**, as well as enterprise-focused **Lightspark** and **Ibex**.

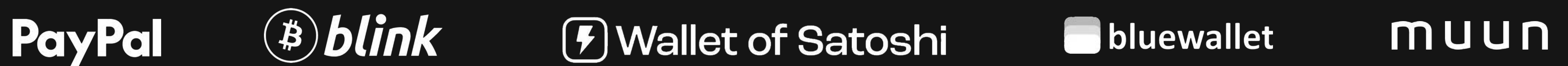




## Consumer Payments

Beyond providing infrastructure, there are a wide range of companies supporting consumer payments, from general purpose custodial and self-custodial wallets, peer-to-peer bitcoin transfers, cross-border remittance solutions, to full fledged financial institutions.

- **Custodial Wallets**, the most mainstream of which is **PayPal**, where users can buy, hold and use bitcoin for payments at checkout. A variety of other custodial solutions support Lightning payments in addition to bitcoin, including **Blink**, **BlueWallet**, **Muun** and **Wallet of Satoshi**, outside the US.



- **Self-Custodial Wallets** allow users to retain full control over their assets and do not rely on a third party to facilitate money transmission, including **Yopaki**, **Phoenix** and **Zeus** wallets, and **Aqua**, which supports the Liquid sidechain in addition to Lightning.



- Remittance applications like US brokerage **Strike**, Africa-focused **Bitnob**, and Central America-focused **OSMO**, provide a suite of services including bitcoin denominated and fiat-to-fiat remittances over bitcoin rails. New entrants like **SAF Money** leverage Lightning to tie together multiple remittance rails into a WhatsApp-orchestrated network of remittance networks.



- **Neobanks** provide traditional fiat banking in addition to bitcoin custody and payments, with one of the oldest bitcoin custodians, **Xapo Bank**, and Brazil's largest neobank with over 100m customers, **Nubank**, both partnering with Lightspark to provide Lightning payments. Even though Xapo only recently integrated Lightning payments, they have already seen transactions surpass those done with USDC. In Mexico, **Banco Azteca**, part of Grupo Salinas, integrated with Ibex to enable Lightning deposits directly into customers bank accounts. **Revolut**, one of the largest European neobanks, allows users to pay with bitcoin as well as transfer it to other users.





## Consumer Applications

Ultimately, bitcoin's value as an asset comes from its utility. As previously covered, bitcoin and lightning payments unlock new applications and use cases that are not possible prior to internet-native payments due to cost restrictions, minimums, time delays, and geographical limitations.

- **Social adoption** has been one of the most innovative applications of bitcoin payments that weren't possible before. Nostr is a neutral social-media protocol that is decentralized and interoperable, just like bitcoin. **Primal** and **Damus** are two prominent Nostr clients that, unlike traditional social media like Instagram and X, enable users to tip tiny quantities of value through bitcoin instead of the "like" mechanism.



- **Streaming services** like **Fountain** and **Wavlake** take this social concept to music and podcasts by allowing users to support creators by tipping them directly or streaming sats by the minute — a new way to pay that unlocks entirely new use cases.



- Gaming services like **ZBD** offer quick in-game tips and rewards, **THNDR** powers creators monetization through microtransactions, and **Pnk Frg** enhances the gaming experience with lightning-fast payments for virtual goods and services.



- **Crowdfunding** platforms similar to Kickstarter use Lightning to enhance crowdfunding by enabling real-time, low-fee donations and investments; with **Geyser** allowing creators to raise funds through microtransactions, and **Thunder Funder** provides a platform for backers to support global projects with fast, scalable Lightning payments.





## Merchant Acceptance

When most think of “bitcoin payments,” they understandably think of buying things with bitcoin. While any merchant can set up their own wallet to start accepting bitcoin, streamlining the checkout process and integrating with order and inventory management systems is not a simple task. Incentivizing users for using more efficient payment systems is also important for merchants and their consumers, so rewarding users with the ability to earn or get a discount for using bitcoin for payments is critical for adoption.

- **Payment processors** like **MoneyBadger** serve both purposes, making it easy for merchants like Pick n Pay to accept bitcoin while offering up to 10% back in bitcoin for purchases. **BitPay**, which powers Ferrari, is one of the oldest bitcoin payment processors, making checkout simple and insulating merchants from the volatility of bitcoin. **BTCPay**, which is used by Namecheap, is an open source project that offers much of the same functionality but with the ability to self-host. **Zaprite** and **Coingate** also aim to make integrating bitcoin payments as simple and frictionless as possible.



- **Rewards** and **Gift Card** services like **Fold**, **Satsback**, **Bitrefill**, and others let consumers earn bitcoin for everyday purchases, similar to credit card reward schemes, as well as purchase gift cards with bitcoin to receive significant discounts at stores that may not even accept bitcoin payments today.





## Merchants and Non-Profits

Finally, where can people spend their bitcoin? While infrastructure, wallets, and payment processors lay the foundation, many still consider “real” adoption coming from businesses and organizations accepting bitcoin for everyday transactions. Today, bitcoin payments cross multiple verticals, where people can buy anything from a toothbrush to a luxury car.

- **Retail and consumer merchants** like **Mondo Convenienza** and **Mercari** support bitcoin payments for everyday purchases, so customers can buy — and, in some cases, sell — goods effortlessly. Similarly, food & beverage businesses such as **Pubkey**, **Pick n Pay**, and **Elektra** bring bitcoin payments to everyday activities like buying groceries or eating out. There are also **online service providers** including **Proton**, **Mullvad**, and **Namecheap** catering to users prioritizing privacy and financial sovereignty, accepting bitcoin payments for products like secure email, VPNs, and domain registrations.



- **Travel services** such as **Travala**, **airBaltic**, and **The Kessler Collection** let travelers book flights, hotels, and transportation with bitcoin, reducing reliance on traditional payment networks and offering a borderless alternative. Plus, **media and entertainment brands** such as **AMC Theaters**, **Botev Plovdiv**, and **Imperia JSC** accept bitcoin for digital content, subscriptions, and ticketing, providing an internet-native solution for everyday leisure activities.



- **Luxury merchants** including **Hublot**, **Balenciaga**, **Ferrari**, and **Tag Heuer** have embraced bitcoin payments, tapping into its global user base while positioning their brands alongside bitcoin’s scarcity and appreciating value.



- **Non-profits** like **charity: water** and **The Water Project** leverage bitcoin’s global reach, real-time settlement, and finality to maximize the impact of donations. With organizations like **The Giving Block** streamlining bitcoin fundraising, nonprofits can accept donations payments easily — whether for humanitarian aid, open-source development, or grassroots initiatives.





# The Bitcoin Payments Ecosystem

## Merchants

Luxury	HUBLOT BALENCIAGA	Ferrari	Retail & Consumer	Mondo Convenienza mercari	Media & Leisure	БОТЕВЪ IMPERIA ONLINE	charity: water The Water Project
Online Services	Proton MULLVAD VPN namecheap	Food & Beverage	PUBKEY PicknPay elektra	Travel	airBaltic Travala.com The Kessler Collection	Giving Block	

## Non-Profits

## Merchant Acceptance

Rewards & Gift Cards	FOLD Azteco	Satsback.com joltz	Bitrefill The Bitcoin Company	Social	primal Damus	Streaming	Fountain WAVLAKE
Payment Processors	BTCPAY coingate	Money Badger zaprite	bitpay	Gaming	THNDR ZBD pnkfrg	Crowd Funding	EYSER THUNDER FUNDER

## Consumer Apps

## Consumer Payments

Neobanks	nybank XAPO BANK	Banco Azteca Revolut	P2P	Cash App venmo	Remittance	STRIKE OSMO	bitnob saf.money
Custodial Wallets	PayPal	blink Wallet of Satoshi	muun	bluewallet	Self Custodial	yopaki QUA XXX	Phoenix

## Liquidity Providers

Lightning Liquidity	LIGHTNING LABS	AMBISS	LQWD	lightningnetwork+	Hosted Services	Blockstream BLOCKDAEMON VOLTAGE	
Exchange & Brokerage	coinbase RIVER	BINANCE kraken	OKX BITFINEX	ripio Bitso	LN MARKETS Relai	Lightning as a Service	Breez LIGHTSPARK ZeroHash

## Service Providers

## Node Software

Node Clients	LN	CORE LIGHTNING	eclair	LDK	ELECTRUM	LN
Node Maintainers	LIGHTNING LABS	Blockstream	ACINQ	Spiral	Human Rights Foundation MIT	>_OpenSats brink chaincode



# Summary

## Bitcoin Is the Currency of the Future (and the Future Is Here)

For much of bitcoin's history, its transition to becoming a viable currency for everyday people making everyday purchases has seemed perpetually on the horizon. Bitcoin payments have seemed like the flying cars of fintech, always just a few years away.

What this report has shown, however, is that bitcoin is already a viable currency. Now. Today. People are using it to buy a round in their local pub, to send money to important charities on the other side of the planet, and to engage in high-frequency trading that takes place everywhere and nowhere.

Perhaps bitcoin's success has been so easy to miss because there is no Bitcoin Inc., no marketing department. Though millions adopt bitcoin each year as their currency of choice, there are no press releases or signing ceremonies. But this is not a weakness. Bitcoin adoption is often invisible because, like the currency itself, it's decentralized, spreading rapidly through countless new interactions and use cases.

Indeed, the growth in use cases might prove even more significant for bitcoin's future than its expanding user base. While bitcoin offers the opportunity to tap into the existing payments market — estimated at 3.4 trillion transactions, with roughly \$1.8 quadrillion in value and \$2.4 trillion in revenue — it also paves the way for innovative payment methods. These include borderless transactions, disintermediated payments, and streaming micropayments that were previously unimagined.

The potential disruption is likely why even governments are increasingly warming to the prospect of a bitcoin economy. Even though many governments stand to lose substantial monetary flexibility through the transition to bitcoin as the default global currency, it is better to ride the wave than to be crushed under it.

As with much tech, the key to further growth is network effects, and the means to achieve them are clear:



## **1. Leverage New Tools to Bring New Utility**

The Lightning Network, and tools like the Breez SDK, make adding bitcoin payments easier than ever. But we don't need more bitcoin apps; we need more apps with bitcoin, taking advantage of the new utilities possible, like pay-per-use models, instant global settlement, and micropayments. The more seamlessly bitcoin is integrated into everyday experiences, the more we will find it there.

## **2. Integrate Bitcoin Payments into Everyday Mainstream Products**

Bitcoin needs to be where people already spend their time — in messaging apps, games, marketplaces, and subscription platforms. Integrating bitcoin payments directly into experiences where people create, share, and consume information will further normalize its use and unlock its potential as the currency of the internet.

## **3. Help Developers Build with Bitcoin**

Bitcoin is pure money and pure software, and software improves through the effort of developers. If bitcoin wins developers, it wins the world. They are the key to general, global adoption and the yet unimagined apps and services that will leverage bitcoin and its unique decentralized, borderless, permissionless architecture.

The tools are ready, the ecosystem is growing, and the foundation is strong. Now is the time for bitcoin payments. By embracing bitcoin today, individuals, businesses, and developers reap the gains of the new peer-to-peer bitcoin economy.



# About the Authors

## Danny Stagg

Danny has spent over a decade in fintech, shaping the growth of global financial platforms. As part of the early team at Wise, he led creative in the Americas, before heading marketing at Paxful, where he helped grow the peer-to-peer Bitcoin marketplace to 14 million users. In 2024, Danny joined Breez to help bring bitcoin payments to every app with the company's self-custodial Lightning SDK.



## Breez

Founded in 2018, Breez is a self-custodial Lightning-as-a-Service company bringing permissionless, peer-to-peer bitcoin payments to apps and services globally with the free and open-source Breez SDK.

The Breez SDK provides developers with an end-to-end solution for integrating self-custodial Lightning payments into their apps and services. It eliminates the need for third parties, simplifies the complexities of Bitcoin and Lightning, and enables seamless onboarding for billions of users to the future of peer-to-peer payments.



## Dan O'Prey

Dan has been a bitcoiner for over a decade and has worked on open-source software with the Linux Foundation, where he was the board representative as Chair of the Marketing Committee for the Hyperledger Project. Dan has held executive positions at Bakkt (NYSE:BKKT), Digital Asset, and as co-founder and CEO of Hyperledger. Previously, Dan was co-founder and CEO of a Sequoia-backed cloud startup in Beijing.



## 1A1z

1A1z is a Bitcoin and freedom technologies research and advisory organization with a mission to help technologists build commercially viable companies to further freedom and human rights.

