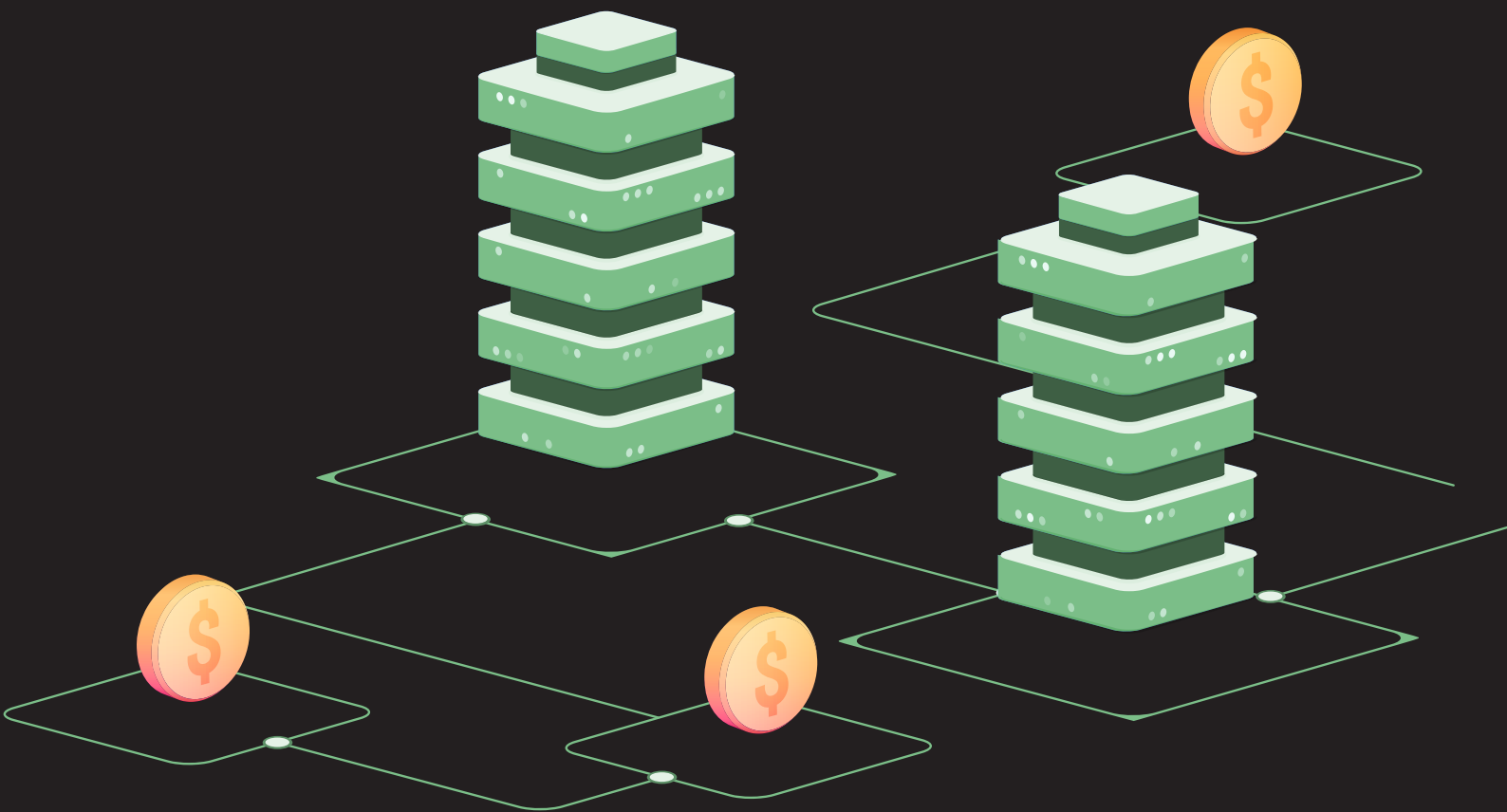




Blockstream

## BMN 1 Q3 REPORT

HOW BMN 1 HOLDERS HAVE  
REDUCED BITCOIN DOWNSIDE BY  
OVER 60% DURING CRYPTO WINTER



Security  
Token  
Market

**DEVELOPED EXCLUSIVELY FOR**



**Blockstream**

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# LETTER TO THE READER

Cryptocurrency mining presents a tremendous opportunity for investors to improve a network's strength while significantly increasing exposure to an asset. Despite its strong value proposition and attractive upside potential, the industry presents significant economic and logistical challenges that have traditionally excluded passive investment. The upfront cost of acquiring the proper hardware, software, and infrastructure present their own challenges, but miners face other variables including costs of electricity, market swings, and custody procedures that benefit economies of scale, creating less opportunities for smaller players to enter the industry and contribute to the ecosystem.

BMN1 is a note that offers investors exposure to the Bitcoin mining industry, by essentially leasing out a certain amount of computing power, which will be solely used to mine BTC as efficiently as possible, over a given term of time. Access to the offering is sold across multiple tranches supported by Bitcoin mining industry veteran Blockstream.

Blockstream has consistently driven Bitcoin innovation through contributions to scaling solutions like Liquid Network, distribution infrastructure not limited to satellite transmission of the Bitcoin blockchain as a tertiary node outside of even our physical hashing network on Earth, to its vast mining network providing consistency to the Bitcoin blockchain's global hashing output during various times of regulatory uncertainty worldwide. BMN1 presents the company's successful foray into issuing public investment products via security token offering, in partnership with Luxembourg-based issuance platform & broker, STOKR.

This report details Jackson Blau, Nosa James, and the Security Token Market team's effort to unpack the Blockstream Mining Note, a security token issued by Blockstream that offers investors exposure into multiple tranches of one of the company's Bitcoin mining operations. Nothing in this report should be constituted as financial or legal advice. All information used to analyze Blockstream or BMN1 was accessed publicly and any estimations, assertions, or ideas communicated through this report should be consumed for entertainment purposes only.



**KYLE SONLIN**  
CEO, SECURITY TOKEN MARKET

# Executive Summary

- Blockstream is a Bitcoin Infrastructure company founded in 2014 by Adam Back and a team of Bitcoin developers. The Company owns and operates one of North America's largest Bitcoin mining operations.
- In 2019, Blockstream began selling two individual Bitcoin mining services for institutional clients (e.g., Fidelity, Foundry). The market received both services well, leading Blockstream to explore other options to help investors gain exposure to Bitcoin mining. As a result, in March 2021, Blockstream announced that it would issue the Blockstream Mining Note security token (BMN1); Blockstream issued the first tranche of BMN1 on April 7th, 2021.
- BMN1 is a security token issued on the Liquid Network, a Bitcoin layer-2 built by Blockstream. BMN1 should be considered a structured product similar to a futures contract. BMN1 investors are entitled to a specified hash rate (i.e., productivity rate) of Blockstream Bitcoin mining operations. As the affiliated miners produce Bitcoin, it is sent to a private fund and released to the investor after a three-year holding period.
- According to Blockstream, this distribution model yields better returns than selling Bitcoin at spot prices and paying investors in fiat throughout the term.
- As of October 28th, 2022, each BMN1 token has produced 5.163 bitcoin. As of this date, BMN1 contracts are on the 479th day of its 1096-day term (i.e., 35.12% completed). BMN1 is on pace to produce ~11.8 bitcoin per token, given a constant bitcoin yield. We evaluated different bitcoin price scenarios with this expected yield to help investors understand BMN1's performance.
- BMN1 now trades for ~\$150,000 per token on secondary markets. With our projected total Bitcoin yield of ~11.8 bitcoin, the secondary market enables investors to purchase Bitcoin at a 45% discount to the current bitcoin price. This analysis compares BMN1 investors to Bitcoin investors. BMN1 performed better than Bitcoin in both our historical performance analysis and future price simulation analysis.
- Investors who "bought & held" Bitcoin or other popular institutional Bitcoin derivatives when BMN1 was issued are down at least 10% more than BMN1



# Research Methodology

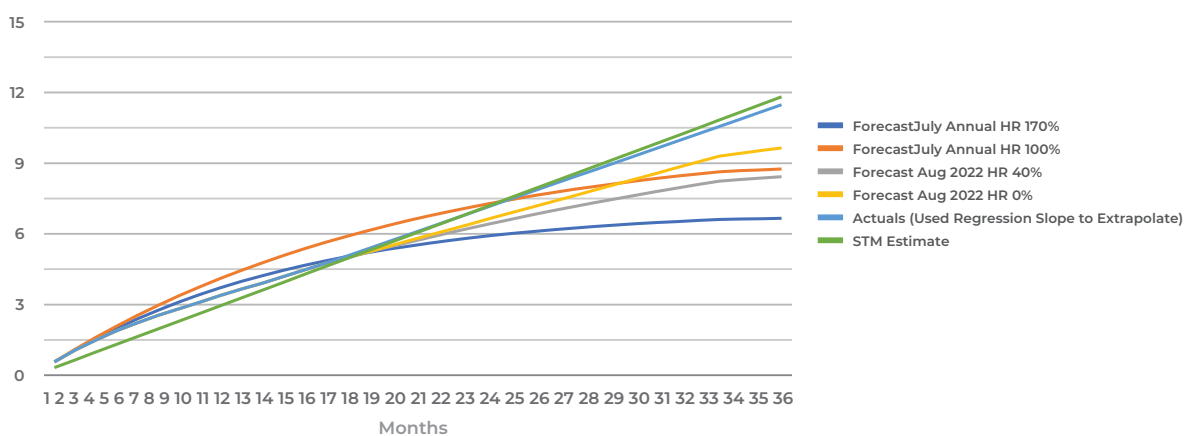
All data in this report is sourced from Blockstream, Security Token Market, or reputable third parties. Blockstream has a dashboard available where investors can see the bitcoin yield / BMN1 at a given time. This dashboard is linked here. On October 28th, 2022, Security Token Market exported the data found on this dashboard and extrapolated it over the remaining investment term of the BMN1 contracts. From this extrapolation, we predicted the total number of bitcoin entitled to each BMN1 investor at the end of the holding term (i.e., July 7th, 2024).

Our bitcoin yield per BMN1 estimate is a simple estimate intended to help investors understand the product. Our analysis assumes that Bitcoin network difficulty and hash rate remain constant. Block difficulty and hash rate have a positive correlation with bitcoin price. As bitcoin

demand increases, bitcoin price rises, thus incentivizing more miners to secure the network and earn block rewards (e.g., new bitcoins awarded to cryptocurrency miners for verifying bitcoin transactions). Unfortunately, the increased number of miners drives up the hash rate and increases network difficulty — thus decreasing bitcoin mining profitability. Our analysis chose not to incorporate potential changes to the hash rate because the demand for Bitcoin is difficult to predict.

By not theorizing and estimating block difficulty, hash rate, and bitcoin price, the reader can create their own opinion on the investment opportunity presented by BMN1. For those unsatisfied with the simple estimate, the graph below shows different Bitcoin network scenarios with increasing hash rate and block difficulty.

Potential BMN1 Bitcoin Yield Given Hash Rate Scenarios



This report often refers to a “buy & hold” strategy to help compare the BMN1 investment. “Buy & hold” refers to a common investment strategy where an investor buys an asset to sell at a future date. “Buy & hold” investment returns depend on two factors: the entry and exit price.

BMN1 investor returns depend on the bitcoin yielded / BMN1, the bitcoin price at the end of the holding term, and the price paid for BMN1.

BMN1 has released eight tranches. Each tranche’s price corresponded to the market demand for their Bitcoin mining services and the spot price of a bitcoin at the issuance date — the bitcoin price varied between \$32,000-\$64,470 during the first eight issuances. All bitcoin pricing

data is from CoinMarketCap.

To compare returns between BMN1 and Bitcoin investors, we simulated returns of both assets across different scenarios. In our analysis, the entry price for Bitcoin “buy & hold” investors is the spot price of a bitcoin at the time of issuance of each BMN1 Tranche (i.e., the Bitcoin “buy & hold” investor’s entry price will be \$58,324 if the spot price of a bitcoin is \$58,324 at the date of the tranche’s issuance). Our analysis examines BMN1 returns from an investor’s perspective, entering their position in both the primary and secondary markets. On the primary market side, we explore the returns of each of the eight tranches individually — enabling us to look more closely at the specific drivers that BMN1 investors’ returns depend upon.



# Blockstream Background

## Key Findings

- Blockstream was founded in 2014 and has held Bitcoin on its balance sheet since shortly after its inception.
- In 2018, Blockstream unveiled the Liquid Network (i.e., an interexchange settlement sidechain or layer-2 network built on Bitcoin) in partnership with 23 of the largest firms in the blockchain space (e.g., Bitfinex, Bitmax, BTSE).
- Blockstream raised \$55M in its Series A investment round in 2016. They used the capital to develop Blockstream Elements (i.e., an open-source platform for developing blockchain scalability solutions), Satellites (i.e., a network that streams the Bitcoin blockchain via satellites 24/7 around the world), and to start exploring building their mining infrastructure. By 2019, Blockstream had become one of North America's most noteworthy Bitcoin mining organizations and began selling its mining services to institutional investors. Clients included Fidelity, Foundry, and BlockFi, among others.
- Blockstream received strong demand for its service offering, leading them to explore other avenues for helping investors gain exposure to Bitcoin mining. Blockstream Mining Note security token (BMN1) does just that.



## Who is Blockstream?

Blockstream is a Bitcoin Infrastructure company founded in 2014 by Adam Back and a team of Bitcoin developers. The company owns and operates one of North America's largest Bitcoin mining operations. Blockstream's main business verticals include Bitcoin mining, layer-2 solutions, and other Bitcoin infrastructure research and development.

In 2015, Blockstream released Elements, better known as Sidechain Elements. Elements is an open-source platform for deploying sidechains (i.e., separate blockchain networks that connect to the parent blockchain to allow for faster settlement times and confidential transactions, among other features).

Upon raising a \$55M Series A round in 2016, the firm released Blockstream Satellite. Blockstream Satellite uses a system of satellites to broadcast the entire Bitcoin blockchain to users without an internet connection.

After developing Blockstream Satellite, Blockstream ventured into Bitcoin mining. Blockstream cited concerns regarding the increasing centralization of Bitcoin miners as one of their core motivations for entering the mining space. Blockstream later developed Modular Mining Units (MMU) to utilize Blockstream Satellite and to enable scalable Bitcoin mining in more remote locations with abundant energy. MMUs are self-contained and remotely operated Bitcoin mining facilities for deployment on energy production sites.

The MMUs have easy on-site installation. After installation, an energy producer can deliver power to the Bitcoin network via Blockstream Satellite and earn bitcoins from mining. These initiatives have helped accelerate the adoption of renewable energy sources for Bitcoin mining and alternative energy use.

Blockstream developed its mining operations while continuing to scale up other aspects of its business. In March of 2018, Blockstream announced a Cryptocurrency Data Integration Partnership with the Intercontinental Exchange (ICE) — solidifying Blockstream as one of the cornerstones of the blockchain ecosystem. Later in 2018, Blockstream unveiled the Liquid Network, the first project built utilizing the Elements code base. The Liquid Network is an interexchange settlement sidechain or layer-2 network built on the Bitcoin blockchain. A layer-2 network is:

A secondary framework or protocol is built on top of an existing blockchain system. The main goal of these protocols is to solve the transaction speed and scaling difficulties that are being faced by the major cryptocurrency networks. - [Binance Academy](#)

Blockstream created the Liquid Network in partnership with 23 other blockchain companies to link cryptocurrency exchanges. A key innovation of the Liquid Network was the introduction of its native token, L-BTC. Liquid Bitcoin (L-BTC) is a cryptocurrency backed by a two-way peg to Bitcoin (BTC). L-BTC is redeemable at any time for the underlying asset, bitcoin. L-BTC provides institutions and holders with a secure and rapid way to transfer bitcoin with full settlement in ~two minutes.



Blockstream continued to develop the Liquid Network while scaling its Bitcoin mining services. By 2020, the Liquid Network had become a vital part of the Bitcoin ecosystem, enabling novel functionalities, including: Blockstream continued to develop the Liquid Network while scaling its Bitcoin mining services. By 2020, the Liquid Network had become a vital part of the Bitcoin ecosystem, enabling novel functionalities, including:

- **Faster Bitcoin transactions:** Non-variable, one-minute block times with two-block transaction finality.
- **Confidentiality of Bitcoin transactions:** Transaction amounts and asset types are not visible to third parties.
- **Issuance of new assets:** Anyone can issue assets on Liquid, including stablecoins, security tokens, and digital collectibles. These assets enjoy the same speed and confidentiality features as Liquid Bitcoin.
- **More efficient arbitrage:** Faster Bitcoin and stablecoin settlements enable traders to more quickly “close the loop” than their competitors.
- **Reduced front-run risk for large trades:** Transaction amounts of large OTC trades are not visible to third parties on the Liquid blockchain, preventing competitors from acting on the information before settlement.
- **Minimized settlement risk:** Multiple interoperable<sup>1</sup> assets on the same chain enable simple atomic swaps<sup>2</sup> of one asset for another when conducting large OTC trades.
- **Stablecoin issuance:** Tether has issued USDT on the Liquid Network.
- **Financial instruments:** The Blockstream Mining Note and other security tokens are issued on the Liquid Network.

- **Gaming asset tokenization:** Online battle royale game Lightnite and the MMO space strategy game Infinite Fleet have tokenized their in-game items on the Liquid Network.

While developing the Liquid Network, Blockstream established itself as one of the largest North American Bitcoin mining operations. Blockstream’s mining operations account for over 300 Megawatts of energy capacity between their US and Canadian facilities. Within its mining operation, Blockstream offers Enterprise Colocation services to help institutional investors invest in Bitcoin mining. The Enterprise Colocation program will provide a full suite of services to institutional clients looking to deploy their miner(s) within Blockstream’s mining ecosystem.

This program leverages Blockstream’s containerized infrastructure, logistics management, installation, operation, and maintenance/support to expose clients to Bitcoin mining economics.

Clients benefit from Blockstream’s economies of scale and operational expertise—the firm can leverage its containerized infrastructure (providing flexibility), and can procure electricity and equipment at rates not typically available to individuals or smaller companies, and can maximize the value of mining ASICs despite their relatively short useful lives (i.e., 3 - 5 years).

Blockstream sought solutions to scale their mining platform better to meet increasing demand. The Blockstream Mining Note security token (BMN1) improves Blockstream’s ability to scale by allowing investors to purchase an allocation of computational power within their mining operation. Few competitors, if any at all, can rival Blockstream’s full-suite service offering.

<sup>1</sup> Interoperable - The ability of different blockchains to interact, transfer, and interpret assets and data between one another thus enabling easier collaboration.

<sup>2</sup> Atomic Swap - Automated exchange smart contracts that enable two parties to exchange tokens from different blockchains without intermediaries.

# Introduction to BMN1

## Key Findings

- BMN1 is a Blockstream security token issued on the Liquid Network that is a scalable solution for investors to gain exposure to their Bitcoin mining operations. BMN1 investors are entitled to a variable amount of Bitcoin mined from a Blockstream Bitcoin mining operation over a three-year maturity term.
- Standard institutional contracts within Blockstream's Enterprise Colocation program start at ~\$3M, creating a barrier to entry for smaller companies and retail investors. Blockstream released the Blockstream Mining Note security token (BMN1) in 2021 to allow investors to participate with a \$233,333 purchase price in primary issuances. In addition, investors can purchase and sell BMN1 in denominations as low as .01 BMN1 in the secondary market (available on multiple exchanges).
- Blockstream established the ORO Fund, a Luxembourg-based securitization fund<sup>3</sup>, that oversees the management of the Blockstream Mining Note and holds the rights to the Bitcoin mined in Blockstream's operation during the term.
- Blockstream also established a Cayman Limited Corporation, BMU OpCo Limited, within the ORO Fund. This special purpose vehicle's (SPV) sole purpose is to receive the Bitcoin from the securitized mining operation.
- BMN1 was available for purchase in primary issuance on STOKR and is trading on Bitfinex Securities, MERJ Exchange, and SideSwap. In addition, BMN1 investors can self-custody tokens if they choose to.

## What is BMN1?

Standard institutional contracts within the Enterprise Colocation program start at \$3M — creating a large barrier to entry for small businesses and individuals. Additionally, Blockstream individually negotiated each contract with a client, making another point of friction in the investment process. Blockstream offered BMN1 as a scalable solution to meet the increasing demand for their Bitcoin mining services. BMN1 is a Blockstream security token issued on the Liquid Network that grants investors direct exposure to the Bitcoin hash rate from Blockstream's enterprise-level mining operations in North America. The BMN1 security token matures over a three-year term. In the term, there are no dividends to be paid out. However, BMN1 holders can find liquidity via secondary marketplaces. Upon maturity, the token holders receive a single pro rata distribution of the proportionate amount of Bitcoin mined by Blockstream's mining operation.

<sup>3</sup>Securitization funds are a specific type of investment funds that are subject to strict investment limits and have the rights to benefits due to certain debts (e.g., a mortgage-backed security fund).

# What is the Structure of BMN1?

BMN1 was structured through a Luxembourg-based securitization fund. As a result, investors have direct exposure to the securitization vehicle, which holds the contract for all the bitcoin mined. BMN1 is a novel investment product because there are no intermediaries for transferring the asset and distributing the dividends at the end of the maturation term.

Blockstream established the ORO Fund as the securitization vehicle that oversees the management of the mining operations. The ORO fund is based out of Luxembourg and is managed by SICOS Securities. The ORO Fund also established a Cayman Limited Corporation, BMU OpCo Limited, as a special purpose vehicle (SPV) compartment within the ORO fund, to receive the accrued Bitcoin from the mining operations.

BMU OpCo Limited was established as a subsidiary “borrower” of ORO Funds (and Blockstream) within the investment contract. Accordingly, BMU OpCo’s first responsibility is to

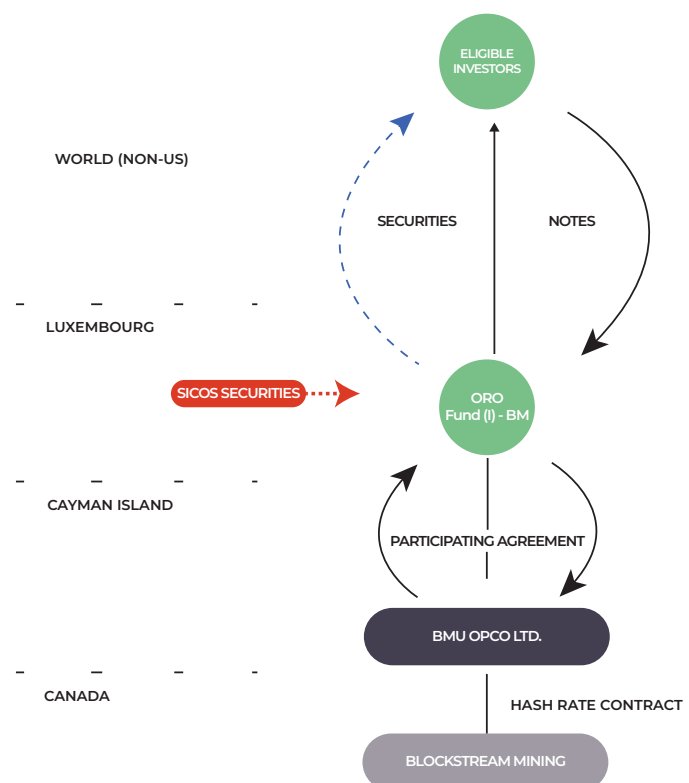
uphold its obligations and exercise its rights under the hash rate Contract. The hash rate Contract was defined by Blockstream as:

The Borrower [BMU UpCo Limited] will purchase the hash rate from Blockstream Mining through a hash rate contract (the “hash rate Contract”). The hash rate Contract will provide mining operation of the bitcoin to the Borrower with a stated hash rate or a direct transfer of bitcoin as Substitute Performance bitcoin.

The stated hash rate in the investment contract was defined as 2,000 TH/s. This entitles holders of the BMN1 to the underlying Bitcoin that Blockstream’s hardware produces with 2,000 TH/s over the three-year term, while the ORO Fund is held responsible as the lender. For those unfamiliar, let’s review what hash rate is:

“hash rate”: A “hash” is an algorithm that solves blockchain computations. The amount of time taken to complete a hash is the “hash rate,” which determines blockchain network efficiency. Hash rate is thus a measure of the computational power per second used when mining. More simply, it is the speed of mining. It is measured in units of hash/second, meaning how many calculations per second can be performed. Machines with a high hash power are highly efficient and can process a great deal of data in a single second. It is typically measured in terahash per second (“TH/s”). A terahash is a trillion or  $10^{12}$  hashes.

## SIMPLIFIED ISSUANCE STRUCTURE



With BMN1, the investment contract ties to mining directly rather than providing investors with USD or Euro exposure seen with Grayscale Bitcoin Trust (GBTC) and other products. As a result, investors in BMN1 have exposure to actual bitcoin versus a correlated return in fiat.

Blockstream has made a dashboard available to investors to provide accountability and easily accessible tracking of their investments. The dashboard includes the amount of bitcoin mined to date, changes in mining productivity, and the length of time remaining in the term. The dashboard can be found [here](#) and [here](#).

The next responsibility of BMU UpCo is to preserve its obligations and exercise its rights as needed within the Underlying Loan. Within the investment contract, Blockstream defines the Underlying Loan as:

The net amount deriving from the issuance of the Notes shall, upon receipt, be credited to the Compartment and applied to make or increase the Underlying Loan. The Underlying Loan will be used to make an upfront payment to Blockstream Mining under the hash rate Contract.

BMU UpCo has additional duties as the borrower as (1) they must hold the bitcoin accrued from the mining operation until the maturation of the investment contract to make payments of the variable interest under the Underlying Loan, and (2) they must pay necessary expenses during the term within the scope of the Underlying Loan. Necessary expenses are charged pro rata across all tranches of the BMN1 Series. The “necessary expenses” are outlined in the investment contract:

The first is a ~1% administrative fee to pay for legal, accounting, and regulatory filing fees, unavoidable throughout the three-

year term. The second is a 10% overage fee, a fee taken from holders distributions in the event Blockstream’s mining operation fails or drastically underperforms. Blockstream covers the first 10% of underperformance via their other Bitcoin miners or reserves; however, if failures exceed that, Blockstream could sell a portion of the accrued Bitcoin from the fund to repair or replace the equipment. Blockstream ensures this would only happen after a thorough evaluation of the situation. It would only enact drastic measures such as this when it would make economic sense at that given time. As of July 2022, nothing suggests that this overage fee will be applied.

Outside of the initial administrative fee taken at issuance, there are no fees subtracted from the initial cost of the 2,000 TH/s production entitlement. However, the investment contract does lay out the unavoidable risk of mining failure. Blockstream does note the risk of mining failure and mitigates the risk via an initial excess in hash rate. However, BMN1 investors allocate mined bitcoin as a 10% cushion in the event of mining failure. This excess hash rate will pay for the costs of replacement and repairs.

Investors do not take custody of the accrued Bitcoin during the three-year term and therefore do not pay custody fees. Similarly, BMN1 investors may hold their tokens directly in Liquid Network wallets. As noted earlier, BMN1 investors are entitled to their proportional amount of Bitcoin mined by the mining operation. During this three-year term, there are no dividends to be paid out. However, BMN1 holders can find liquidity when necessary via multiple secondary exchanges. As a result, only the holders of BMN1 at the end of the three-year term receive the Bitcoin mined during this period.

Blockstream does not disclose its full methodology for pricing tranches; however, it did note that its process does consider Bitcoin price, among other factors. According to Blockstream, the three-year holding term provides better performance than selling bitcoins throughout the life of the contract and paying investors in fiat. Back-testing Blockstream's data, they have found that delivering all mining costs upfront and mining bitcoins as they allow with BMN1 has been more profitable in any 36-month term than mining and selling the bitcoins and distributing fiat currency.

BMN1 tokens are fungible despite each tranche having different issuance dates and prices. The structure achieves fungibility across tranches through slight variations of the investment contract. Later tranches of BMN1 have shortened terms that mature on the same Maturity Date. Blockstream included the amount of Bitcoin mined by the first tranche in these investment contracts, so they all represent the same amount of underlying Bitcoin. The contracts were modified to make them standardized and fungible across tranches to improve secondary liquidity. All BMN1 tokens being fungible allows investors to trade even varying tranches as one equivalent, uniform investment product.

At the time of writing, October 28th, 2022, BMN1 tokens are 35.13% of the way through the three-year term. Currently, each BMN1 token has mined ~4.39 bitcoin. If this mining rate continues over the remainder of the term, the token holder will receive a payment of ~11.8 bitcoin upon maturity of the BMN1 contract.

BMN1 investors had the opportunity to purchase BMN1 with Bitcoins and fiat. With our estimated final payment of 11.8 bitcoin and an average price of 5.8533 bitcoin across all tranches, investors in BMN1 would see an average total profit of 5.9467 bitcoin. This would represent a 102% return on investment in Bitcoin. However, this is without considering the drastic price reduction in Bitcoin. With this, BMN1 investors would currently average a net loss of ~18%, while Bitcoin's price has fallen over 65% from the release of Tranche 1 of BMN1. Comparably, the "buy & hold" investors would have lost 60.72% of the value in their bitcoin investments. It is also interesting to note how expensive it would have been to buy the projected amount of bitcoin that the BMN1 notes will be redeemed for on the day they were released; this can be shown in the last row of the below chart.

|   | Tranche 1  | Tranche 2  | Tranche 3  | Tranche 4  | Tranche 5  | Tranche 6  | Tranche 7  | Tranche 8  | Average           |
|---|------------|------------|------------|------------|------------|------------|------------|------------|-------------------|
| Price of BMN1 in BTC when released                                    | 4.7952     | 6.9758     | 5.9525     | 5.0356     | 4.8762     | 5.2808     | 5.7708     | 8.1394     | <b>5.8533</b>     |
| Total profit / BMN1 token on maturation in BTC                        | 7.0188     | 4.8382     | 5.8615     | 6.7784     | 6.9378     | 6.5332     | 6.0432     | 3.6746     | <b>5.9607</b>     |
| BTC price when tranches were released                                 | \$ 58,324  | \$ 37,025  | \$ 32,000  | \$ 53,805  | \$ 64,260  | \$ 62,210  | \$ 64,470  | \$ 42,375  | <b>\$ 51,809</b>  |
| Total \$ cost of BMN1 if invested using BTC at release                | \$ 279,675 | \$ 258,279 | \$ 190,480 | \$ 270,940 | \$ 313,345 | \$ 328,519 | \$ 372,043 | \$ 344,907 | <b>\$ 294,774</b> |
| Total \$ cost of BMN1 if invested using USD at release                | \$ 233,333 | \$ 233,333 | \$ 280,000 | \$ 292,000 | \$ 302,000 | \$ 336,000 | \$ 371,000 | \$ 300,000 | <b>\$ 293,458</b> |
| Profit / BMN1 at Today's BTC Price (\$20,352.51) if Invested with BTC | -14.03%    | -6.91%     | 26.23%     | -11.26%    | -23.27%    | -26.81%    | -35.37%    | -30.29%    | <b>-15.21%</b>    |
| Profit / BMN1 at Today's BTC Price (\$20,352.51) if Invested with USD | 3.05%      | 3.05%      | -14.13%    | -17.66%    | -20.38%    | -28.44%    | -35.19%    | -19.85%    | <b>-16.19%</b>    |
| Profit for "Buy & Hold" Investor at Today's BTC Price (\$20,352.51)   | -65.10%    | -45.03%    | -36.40%    | -62.17%    | -68.33%    | -67.28%    | -68.43%    | -51.97%    | <b>-60.72%</b>    |
| Total \$ cost of buying 11.8 BTC at release                           | \$ 689,039 | \$ 437,413 | \$ 378,047 | \$ 635,651 | \$ 759,166 | \$ 734,948 | \$ 761,647 | \$ 500,617 | <b>\$ 612,066</b> |

At the current price of a bitcoin (\$20,352.51), amid a "crypto-winter," this would give BMN1 holders \$262,710 worth of Bitcoin upon maturity of the contract. Despite the price of bitcoin suffering losses of more than 63% since the release of the first tranche, BMN1 investors have fared significantly better than Bitcoin investors. BMN1 investors benefit from some downside protection. If the price of bitcoin held at the current prices, investors would still receive a 12.5% return over the term. We will go into further detail in the Expectations of BMN1 Performance Section.

## Regulatory Comments

BMN1 is an EU-compliant security token available for purchase by non-US-qualified investors. Blockstream's target investor would like to add exposure to Bitcoin mining but may not be able to afford Blockstream's Enterprise Colocation service. This iteration was only available for investment by non-US-qualified investors during issuance. The minimum investment is one BMN1 token (e.g., \$233,333) and thus had a somewhat limited investor pool. However, with secondary exchanges such as MERJ offering derivatives of BMN1, investors can now invest in denominations as little as 0.00001 BMN1 (~\$1.50 at current prices), allowing for retail participation.

All three companies involved in the investment contract fall under EU regulations (1) The ORO Fund, a Luxembourg securitization firm (2) BMU UpCo, a Cayman Islands SPV and (3) SICOS Securities, a Luxembourg LLC.

## Investment Risks

To date, there have not been any issues with Blockstream's mining operations. Blockstream has an experienced team and leverages state-of-the-art mining rigs and infrastructure.

Access to low-cost energy sources is one of the primary challenges associated with Bitcoin mining. Blockstream has addressed this risk by (1) promising investors 2,000 terahashes per BMN1, thereby absorbing the risk of high energy prices, (2) Creating Blockstream Energy, a Blockstream subsidiary founded in 2021, aims to provide latent energy demand for the smallest renewable energy projects, (3) Establishing a network of trusted energy companies to outsource to.

Additionally, with Blockstream Satellite Service, Blockstream can leverage its satellite technology in its mining operations to allow them to develop mining operations in locations with abundant and cheap power sources that lack internet connectivity. Leveraging this technology will enable Blockstream to capitalize on more types of renewable energy sources.





# THE SECURITY TOKEN

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Tokens Tracked

30K+

Visitors/ Month

10M+

Data Requests

200+

Countries/Territories

1.2K+

Hours of Content

# Where can BMN1 be purchased?

| PLATFORM                          | SERVICES                    | WITHDRAW | EXCHANGE | TRADING FEES              | MINIMUM TRADING/WITHDRAW | INVESTOR TYPE | REQUIREMENTS                                      |
|-----------------------------------|-----------------------------|----------|----------|---------------------------|--------------------------|---------------|---|
| <b>Bitfinex Securities*</b>       | Primary Offering & Exchange | ×        | ✓        | 0.1% Maker/<br>0.2% Taker | 0.0001***/N/A            | Qualified     | Trading available after \$100k investment**       |
| <b>MERJ Exchange via DIGTL***</b> | Exchange                    | ✓        | ✓        | 1%                        | 0.0000001/1.00           | All           | "Listed Security" available to all investor types |
| <b>SideSwap</b>                   | Swap Market                 | ✓        | ✓        | 0.1%                      | 0.01/0.01                | Qualified**** | Whitelisted AMP ID with STOKR                     |
| <b>STOKR</b>                      | Primary Offering            | ✓        | ×        | N/A                       | 0.01/0.01                | Qualified     | Minimum €200k investment                          |



- **Bitfinex**
- If the user's Bitfinex BMN wallet balance is  $\geq$  \$100K, users can buy and sell BMN in increments of 0.00001 BMN.
- If the user's Bitfinex BMN wallet balance is  $<$  \$100k, buyers can only place orders equal to the difference between their wallet balance and \$100k. Orders will be auto-converted to fill-or-kill.
- Sellers with a Bitfinex BMN balance  $<$  \$100K can sell in any size but will have all orders auto-converted to fill-or-kill.
- Corporate investors aren't subject to wallet minimum balances and can place orders in increments of 0.00001 BMN1.
- They have added additional investor restrictions that can be found [here](#).



- **MERJ Exchange via DIGTL Markets**
- Learn more about how to trade BMN1 using MERJ [here](#).
- MERJ offers a derivative of BMN1, BMN; investors can now invest in denominations as little as 0.00001 BMN1 (~\$1.50 at current prices) which allows for retail participation.



- **SideSwap**
- Learn more about how to trade BMN1 using SideSwap by whitelisting your AMP ID with STOKR [here](#).



- **STOKR**
- Investors need to complete the STOKR KYC/AML. Then each investor must fund the account with at least \$200,000 to invest in BMN1.
- Can trade peer-to-peer on STOKR via STOKR whitelisted accounts.



- **Taking custody of your BMN1**
- Blockstream has written a guide on self-custody of your BMN1 tokens after purchasing, which can be found [here](#).

# Expectation of BMN1 Performance

## Key Findings

- Given its current and historical production, we estimate that each BMN1 token is on pace to yield ~11.8 bitcoin per BMN1.
- This analysis compares BMN1 investors to Bitcoin investors. BMN1 performed better than Bitcoin in both our historical performance analysis and future price simulation analysis.
- BMN1 now trades for ~\$150,000 on secondary markets. The seemingly low valuation is partially due to the time value of money and likely due to an illiquidity discount.
- On average, BMN1 investors will yield a return of ~105% if the price of a bitcoin is \$50,000 upon maturity of the investment contract. On the other hand, “Buy & hold” investors, assuming an entry price equal to the average bitcoin price on the release of the tranches (i.e., \$51,809), would lose ~3.5% on their initial investment.
- Investors who “bought & held” Bitcoin or other popular institutional Bitcoin derivatives when BMN1 was issued are down at least 10% more than BMN1 investors.
- If the Bitcoin hash rate reaches 170% of its July levels, we predict BMN1 will yield ~6.657 bitcoin. In this potential scenario, Tranches three and eight have negative returns
- — indicating that investors would have been better off investing in bitcoin. However, even with these two tranches, the average BMN1 investor would earn at least a 5.99% greater return than the “buy & hold” investor in this increased hash rate scenario.



## Benefits of Investing in BMN1

Blockstream had been providing institutional clients with Bitcoin mining exposure for years. With BMN1, Blockstream created a fungible product that standardized their Enterprise Colocation program contracts previously intended for institutional clients. The resulting BMN1 security token is a much less expensive, more liquid opportunity for institutional and non-institutional investors looking for Bitcoin mining exposure. Additionally, buying BMN1 tokens enables exposure to Bitcoin mining without investing in the associated CapEx, cultivating the needed expertise.

Globally, there are expectations of a semiconductor shortage continuing into the near future. Intel's CEO Pat Gelsinger told CNBC that he expects the semiconductor industry to suffer supply shortages through 2024. Intel is the world's largest semiconductor manufacturer by revenue and one of the primary producers of the semiconductors needed for Bitcoin miners. Due to the shortage, many components needed to assemble Bitcoin miners are hard to procure. To account for this, Blockstream only issues BMN1 tokens after assembling the necessary infrastructure required.

In an ask-me-anything regarding BMN1, Adam Back and Samson Mow state their new equipment costs \$100/TH/s. Understanding Blockstream's input costs enables us to evaluate Blockstream's value proposition. Each BMN1 token is entitled to 2,000 TH/s, and the average price of a BMN1 token was \$293,458.25. At these prices, BMN1 investors are paying approximately \$146.73/TH/s, meaning that investors are paying \$46.73 for installation, upkeep, storage, and expertise per TH/s. This is a relatively small price, given that miners generally have little to no residual value after their useful life.

Another critical benefit of BMN1 is that it is more liquid than any previous Bitcoin mining service. BMN1 investors have complete visibility and transparency of the notes and quantities of bitcoin production each and every day. In addition, BMN1 holders can exit their positions at any time before maturity on one of four platforms that offer secondary trading. (i.e., Bitfinex Securities, MERJ Exchange, and SideSwap).

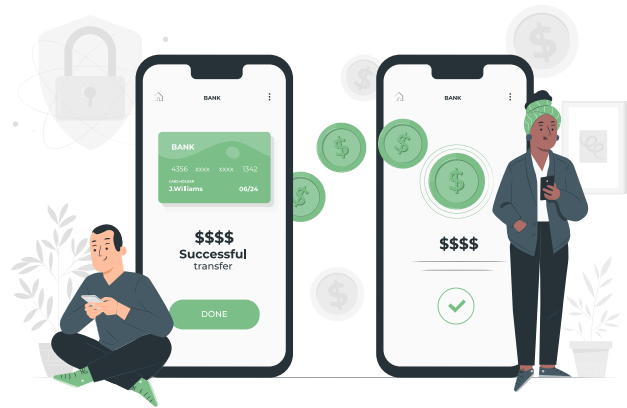
In the future, BMN1, and other security tokens, may be able to unlock more liquidity by being used as collateral for lending. In theory, BMN1 investors could approach a traditional or decentralized lending platform to borrow against their BMN1 position — enabling investors to have more liquidity and/or generate additional yield. For example, a BMN1 holder could short Bitcoin and use their BMN1 as collateral, allowing investors to earn an additional yield on their Bitcoin mining investment that was previously not possible. In addition, BMN1 holders could use their BMN1 tokens as collateral in a decentralized lending protocol (e.g., Aave) and use the borrowed funds to invest in low-risk liquidity pools.



## BMN1 Performance vs. “Buy & Hold” Strategy

As stated, each investor is entitled to the underlying Bitcoin produced by 2,000 TH/s of Blockstream’s mining operation. Upon writing this on October 28th, 2022, which is day 479 of the 1096-day term, each BMN1 has produced 5.163 bitcoin. The BMN1 tokens are 35.12% through the three-year contract term. By assuming the bitcoin yield over the maturity period remains constant, we can extrapolate the yield to estimate the net returns upon maturity of the BMN1 contracts. With this assumption in place, Blockstream is on pace to produce ~11.8 bitcoin per BMN1. At the current price of bitcoin, this is a projected \$262,000+ in value. At the current bitcoin price, BMN1 Tranches 3-8 will have lost money on their investment; however, had the BMN1 holders “bought and held” Bitcoin at the time they bought BMN1, they would have had their losses doubled or tripled.

The first tranche of BMN1 was issued for \$233,333, and their most recent tranche was priced at \$300,000, while the most expensive tranche was issued for \$371,000. Our estimated bitcoin yield of ~11.8 bitcoin leaves the first tranche with an average price of ~\$24,840 / bitcoin and the most expensive tranche with an average price of \$31,403. Below is a table showing each tranche of BMN1 investors and their potential realized return upon maturity of the BMN1 contract in varying bitcoin price scenarios:



| BMN1 Investor Potential Returns |                         |                         |                         |                         |                         |                         |                         |                         |                       |
|---------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-----------------------|
| Price Paid for BMN1             | Tranche 1<br>\$ 233,333 | Tranche 2<br>\$ 233,333 | Tranche 3<br>\$ 280,000 | Tranche 4<br>\$ 292,000 | Tranche 5<br>\$ 302,000 | Tranche 6<br>\$ 336,000 | Tranche 7<br>\$ 371,000 | Tranche 8<br>\$ 300,000 | Average<br>\$ 293,458 |
| Return if BTC = \$17,708        | -49.48%                 | -49.48%                 | -57.90%                 | -59.63%                 | -60.96%                 | -64.91%                 | -68.22%                 | -60.70%                 | <b>-59.83%</b>        |
| Return if BTC = \$20,000        | -42.94%                 | -42.94%                 | -52.45%                 | -54.40%                 | -55.91%                 | -60.37%                 | -64.11%                 | -55.62%                 | <b>-53.59%</b>        |
| Return if BTC = \$25,000        | -28.67%                 | -28.67%                 | -40.56%                 | -43.00%                 | -44.89%                 | -50.47%                 | -55.14%                 | -44.52%                 | <b>-41.99%</b>        |
| Return if BTC = \$30,000        | -14.40%                 | -14.40%                 | -28.67%                 | -31.60%                 | -33.87%                 | -40.56%                 | -46.17%                 | -33.43%                 | <b>-30.39%</b>        |
| Return if BTC = \$35,000        | -0.14%                  | -0.14%                  | -16.78%                 | -20.20%                 | -22.84%                 | -30.65%                 | -37.19%                 | -22.33%                 | <b>-18.79%</b>        |
| Return if BTC = \$40,000        | 14.13%                  | 14.13%                  | -4.89%                  | -8.80%                  | -11.82%                 | -20.75%                 | -28.22%                 | -11.23%                 | <b>-7.18%</b>         |
| Return if BTC = \$45,000        | 28.39%                  | 28.39%                  | 6.99%                   | 2.60%                   | -0.80%                  | -10.84%                 | -19.25%                 | -0.14%                  | <b>4.42%</b>          |
| Return if BTC = \$50,000        | 42.66%                  | 42.66%                  | 18.88%                  | 14.00%                  | 10.22%                  | -0.93%                  | -10.28%                 | 10.96%                  | <b>16.02%</b>         |
| Return if BTC = \$55,000        | 56.93%                  | 56.93%                  | 30.77%                  | 25.40%                  | 21.24%                  | 8.98%                   | -1.31%                  | 22.05%                  | <b>27.62%</b>         |
| Return if BTC = \$60,000        | 71.19%                  | 71.19%                  | 42.66%                  | 36.80%                  | 32.27%                  | 18.88%                  | 7.67%                   | 33.15%                  | <b>39.23%</b>         |
| Return if BTC = \$65,000        | 85.46%                  | 85.46%                  | 54.55%                  | 48.20%                  | 43.29%                  | 28.79%                  | 16.64%                  | 44.24%                  | <b>50.83%</b>         |
| Return if BTC = \$68,789        | 96.27%                  | 96.27%                  | 63.56%                  | 56.83%                  | 51.64%                  | 36.30%                  | 23.44%                  | 52.65%                  | <b>56.06%</b>         |

**“Buy & Hold” Strategy on Tranche Release Date**

| BTC price on release     | Tranche 1<br>\$ 58,324 | Tranche 2<br>\$ 37,025 | Tranche 3<br>\$ 32,000 | Tranche 4<br>\$ 53,805 | Tranche 5<br>\$ 64,260 | Tranche 6<br>\$ 62,210 | Tranche 7<br>\$ 64,470 | Tranche 8<br>\$ 42,375 | Averages<br>\$ 51,809 |
|--------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|-----------------------|
| Return if BTC = \$17,708 | -69.64%                | -52.17%                | -44.66%                | -67.09%                | -72.44%                | -71.54%                | -72.53%                | -58.21%                | <b>-65.82%</b>        |
| Return if BTC = \$20,000 | -65.71%                | -45.98%                | -37.50%                | -62.83%                | -68.88%                | -67.85%                | -68.98%                | -52.80%                | <b>-61.40%</b>        |
| Return if BTC = \$25,000 | -57.14%                | -32.48%                | -21.88%                | -53.54%                | -61.10%                | -59.81%                | -61.22%                | -41.00%                | <b>-51.75%</b>        |
| Return if BTC = \$30,000 | -48.56%                | -18.97%                | -6.25%                 | -44.24%                | -53.31%                | -51.78%                | -53.47%                | -29.20%                | <b>-42.09%</b>        |
| Return if BTC = \$35,000 | -39.99%                | -5.47%                 | 9.38%                  | -34.95%                | -45.53%                | -43.74%                | -45.71%                | -17.40%                | <b>-32.44%</b>        |
| Return if BTC = \$40,000 | -31.42%                | 8.04%                  | 25.00%                 | -25.66%                | -37.75%                | -35.70%                | -37.96%                | -5.60%                 | <b>-22.79%</b>        |
| Return if BTC = \$45,000 | -22.84%                | 21.54%                 | 40.63%                 | -16.36%                | -29.97%                | -27.66%                | -30.20%                | 6.19%                  | <b>-13.14%</b>        |
| Return if BTC = \$50,000 | -14.27%                | 35.04%                 | 56.25%                 | -7.07%                 | -22.19%                | -19.63%                | -22.44%                | 17.99%                 | <b>-3.49%</b>         |
| Return if BTC = \$55,000 | -5.70%                 | 48.55%                 | 71.88%                 | 2.22%                  | -14.41%                | -11.59%                | -14.69%                | 29.79%                 | <b>6.16%</b>          |
| Return if BTC = \$60,000 | 2.87%                  | 62.05%                 | 87.50%                 | 11.51%                 | -6.63%                 | -3.55%                 | -6.93%                 | 41.59%                 | <b>15.81%</b>         |
| Return if BTC = \$65,000 | 11.45%                 | 75.56%                 | 103.13%                | 20.81%                 | 1.15%                  | 4.48%                  | 0.82%                  | 53.39%                 | <b>25.46%</b>         |
| Return if BTC = \$68,789 | 17.94%                 | 85.79%                 | 114.97%                | 27.85%                 | 7.05%                  | 10.58%                 | 6.70%                  | 62.33%                 | <b>32.78%</b>         |

BMN1 investors experience some protection when the price of a bitcoin falls and experience “juiced” returns when the price of a bitcoin rises. For example, assume the price of a bitcoin is \$50,000 upon maturity of the investment contract and a Bitcoin investor bought Bitcoin at the average price between tranches 1-8 (\$51,809). In this scenario, “buy & hold” investors would lose an estimated 3.5% on their investment while BMN1 investors would return +118%, drastically changing the return profile of a bitcoin investment.

Next, assume bitcoin price at maturity is \$30,000. In this scenario, “buy & hold” investors, entering at \$51,809, would see a loss of almost 43% of their investment value. In this same scenario, BMN1 investors would still net a positive return of 30.81%.

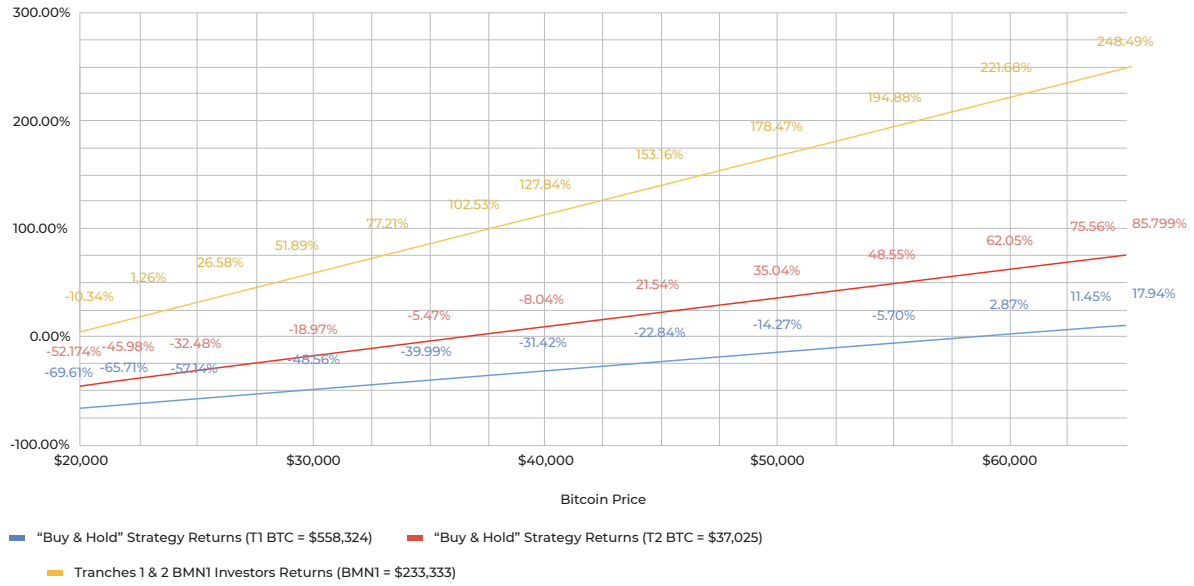
By comparing potential returns between tranches, it is clear that the return on investment is less dependent on the price

of a bitcoin and more on the pricing of the tranche. This is due to Blockstream pricing each tranche differently with respect to the bitcoin price.

For example, Tranche 1 and 2 had the same price and the same returns despite the bitcoin price at issuance being down 36% when Tranche 2 was issued. The bitcoin price fluctuated between \$32,000 and \$64,470 during the issuance term of all the BMN1 tranches. Despite this, investors in every tranche have outperformed the “buy & hold” investor that would have purchased at any given time.

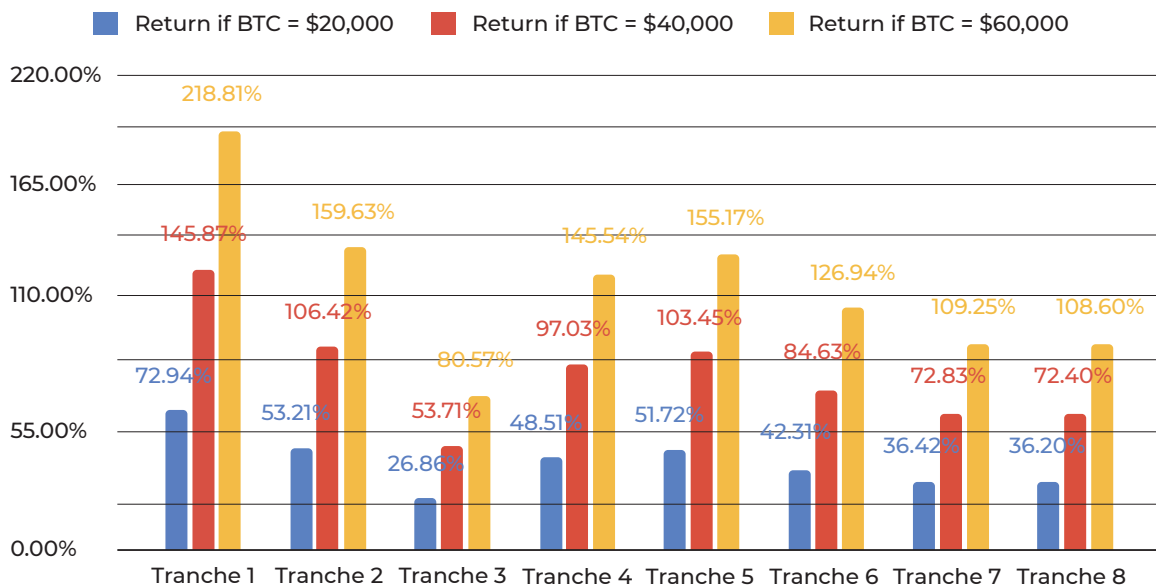
Assuming that the “buy & hold” investor’s entry price is the average price of a bitcoin during BMN1’s issuance term (\$51,809), the “buy & hold” investor will not break even until a bitcoin reaches \$51,809 again, while the average BMN1 investor will break even at \$24,839.92. “Buy & hold” investors seem to take more downside risk with less upside potential than BMN1 investors.

### BMN1 Tranches 1 & 2 vs. "Buy & Hold" Investment at Same Time



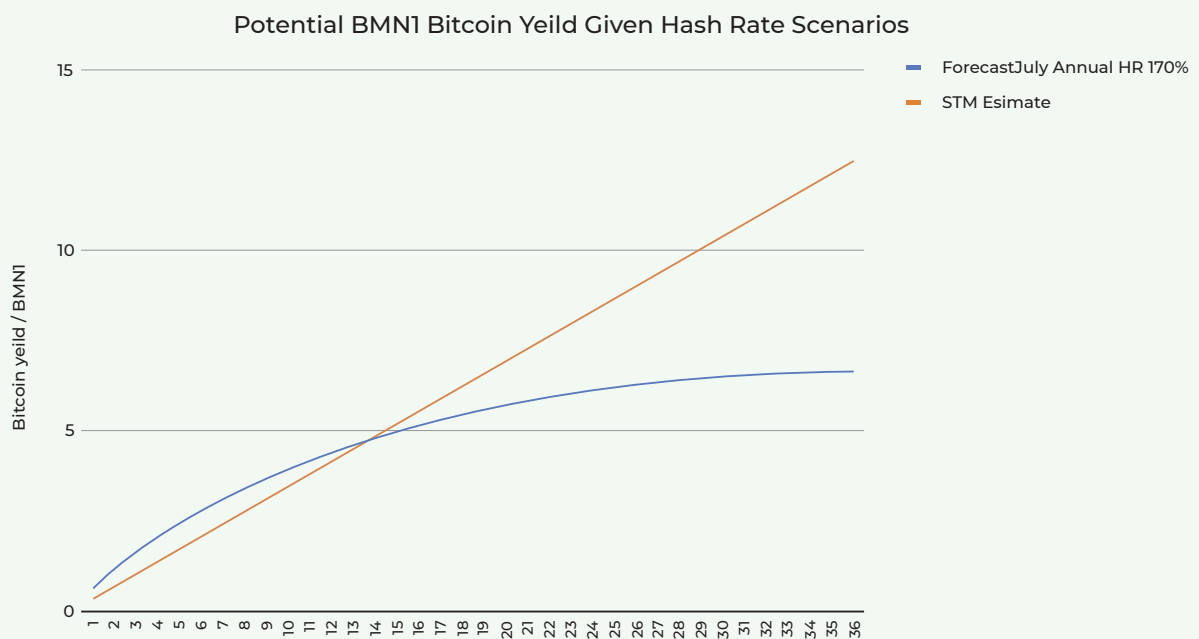
To show just how drastic the difference between the two investment strategies is, we have included this chart below comparing the difference in returns for BMN1 investors versus "buy & hold" investors in three bitcoin price scenarios. In every scenario, the difference in return is positive, indicating that BMN1 investors outperform the "buy & hold" strategy equivalent (i.e., a difference of 0% would indicate equal potential return on investment for both assets).

### Differences in Returns Between BMN1 Investors and "Buy & Hold" Investors



Our analysis assumes that BMN1 will linearly yield bitcoin over the three-year period. This allows us to create a simple analysis of the asset. However, our analysis does not consider changes in hash rate or network difficulty. While it was valuable to perform our analysis based on historical data, it will also be helpful to analyze BMN1 concerning an increase in hash rate.

A rise in hash rate would increase block difficulty and decrease bitcoin mining profitability. Below is a chart showing the difference in returns between the original estimate and a scenario where the hash rate rises to 170% of its July 2022 level. Our analysis will contrast our initial bitcoin yield (~11.8 bitcoin / BMN1) with the increased hash rate yield (~6.657 bitcoin / BMN1).



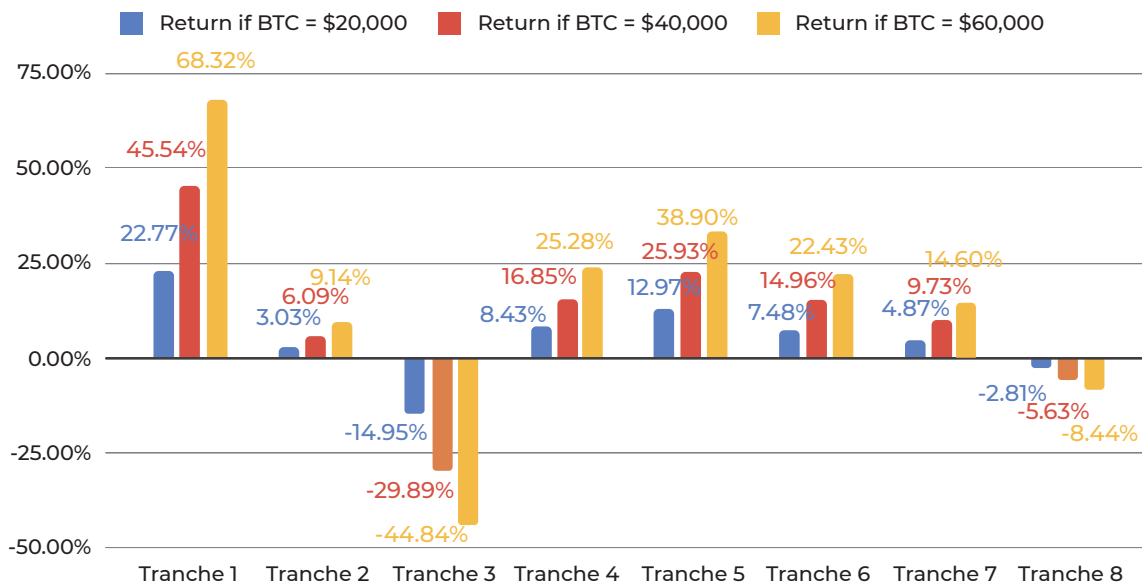
As we can see, if the hash rate reaches 170% of its July levels, BMN1 will yield ~6.657 bitcoin.

The table below shows the returns of BMN1 investors given an increased hash rate at different bitcoin price levels.

| BMN1 Investor Potential Returns |                        |                        |                        |                        |                        |                        |                        |                        |                      |
|---------------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|----------------------|
| Price Paid for BMN1             | Tranche 1<br>\$233,333 | Tranche 2<br>\$233,333 | Tranche 3<br>\$280,000 | Tranche 4<br>\$292,000 | Tranche 5<br>\$302,000 | Tranche 6<br>\$336,000 | Tranche 7<br>\$371,000 | Tranche 8<br>\$300,000 | Average<br>\$293,458 |
| Return if BTC = \$17,708        | -49.48%                | -49.48%                | -57.90%                | -59.63%                | -60.96%                | -64.91%                | -68.22%                | -60.70%                | -59.83%              |
| Return if BTC = \$20,000        | -42.94%                | -42.94%                | -52.45%                | -54.40%                | -55.91%                | -60.37%                | -64.11%                | -55.62%                | -53.59%              |
| Return if BTC = \$25,000        | -28.67%                | -28.67%                | -40.56%                | -43.00%                | -44.89%                | -50.47%                | -55.14%                | -44.52%                | -41.99%              |
| Return if BTC = \$30,000        | -14.40%                | -14.40%                | -28.67%                | -31.60%                | -33.87%                | -40.56%                | -46.17%                | -33.43%                | -30.39%              |
| Return if BTC = \$35,000        | -0.14%                 | -0.14%                 | -16.78%                | -20.20%                | -22.84%                | -30.65%                | -37.19%                | -22.33%                | -18.79%              |
| Return if BTC = \$40,000        | 14.13%                 | 14.13%                 | -4.89%                 | -8.80%                 | -11.82%                | -20.75%                | -28.22%                | -11.23%                | -7.18%               |
| Return if BTC = \$45,000        | 28.39%                 | 28.39%                 | 6.99%                  | 2.60%                  | -0.80%                 | -10.84%                | -19.25%                | -0.14%                 | 4.42%                |
| Return if BTC = \$50,000        | 42.66%                 | 42.66%                 | 18.88%                 | 14.00%                 | 10.22%                 | -0.93%                 | -10.28%                | 10.96%                 | 16.02%               |
| Return if BTC = \$55,000        | 56.93%                 | 56.93%                 | 30.77%                 | 25.40%                 | 21.24%                 | 8.98%                  | -1.31%                 | 22.05%                 | 27.62%               |
| Return if BTC = \$60,000        | 71.19%                 | 71.19%                 | 42.66%                 | 36.80%                 | 32.27%                 | 18.88%                 | 7.67%                  | 33.15%                 | 39.23%               |
| Return if BTC = \$65,000        | 85.46%                 | 85.46%                 | 54.55%                 | 48.20%                 | 43.29%                 | 28.79%                 | 16.64%                 | 44.24%                 | 50.83%               |
| Return if BTC = \$68,789        | 96.27%                 | 96.27%                 | 63.56%                 | 56.83%                 | 51.64%                 | 36.30%                 | 23.44%                 | 52.65%                 | 56.06%               |

The break-even bitcoin price for the average BMN1 investor would be \$44,080; this is more than \$7,000 lower than the bitcoin price required for “buy & hold” investors to find profitability. Below is the difference in returns between BMN1 investors and “buy & hold” given an increase in hash rate.

### Difference in Returns Between BMN1 Investors and “Buy & Hold” Investors at 170% HR



Under this scenario, this chart looks very different than our previous scenario analysis. Tranches three and eight have negative returns — indicating that investors would have been better off investing in bitcoin.

Despite the two tranches where investors were better off “buying & holding” bitcoin, the average BMN1 investor would earn at least a 5.99% greater return than the “buy & hold” investor in the increased hash rate scenario.

| BMN1 Investor Potential Returns | “Buy & Hold” Strategy on Tranche Release Date |           | Difference |
|---------------------------------|---|-----------|------------|
|                                 | Price Paid for BMN1 or bitcoin                | \$293,458 |            |
| Return if BTC = \$17,708        | 59.83%  | -65.82%   | 5.99%      |
| Return if BTC = \$20,000        | -53.59%                                       | -61.40%   | 7.80%      |
| Return if BTC = \$25,000        | -41.99%                                       | -51.75%   | 9.76%      |
| Return if BTC = \$30,000        | -30.39%                                       | -42.09%   | 11.71%     |
| Return if BTC = \$35,000        | -18.79%                                       | -32.44%   | 13.66%     |
| Return if BTC = \$40,000        | -7.18%  | -22.79%   | 15.61%     |
| Return if BTC = \$45,000        | 4.42%   | -13.14%   | 17.56%     |
| Return if BTC = \$50,000        | 16.02%  | -3.49%    | 19.51%     |
| Return if BTC = \$55,000        | 27.62%  | 6.16%     | 21.46%     |
| Return if BTC = \$60,000        | 39.23%  | 15.81%    | 23.41%     |
| Return if BTC = \$65,000        | 50.83%  | 25.46%    | 25.37%     |
| Return if BTC = \$68,789        | 56.06%  | 32.78%    | 23.28%     |

BMN1 will likely produce a bitcoin yield between ~11.8 and ~6.657. We can use the following chart to show the “range” outcomes between BMN1 investors and “Buy & Hold investors.” Note that all values are positive, meaning that BMN1 investors, on average, will have outperformed bitcoin “buy & hold ” investors.

| Difference in Returns Between BMN1 Investors Given Different BMN1 Bitcoin Yields and Bitcoin Price Scenarios |             |             |
|--|-------------|-------------|
| Predicted bitcoin yielded / BMN1   | 11.81397963 | 6.657417129 |
| Return if BTC = \$17,708   | 37.11%      | 5.99%       |
| Return if BTC = \$20,000   | 43.75%      | 7.80%       |
| Return if BTC = \$25,000   | 54.69%      | 9.76%       |
| Return if BTC = \$30,000   | 65.63%      | 11.71%      |
| Return if BTC = \$35,000   | 76.56%      | 13.66%      |
| Return if BTC = \$40,000   | 87.50%      | 15.61%      |
| Return if BTC = \$45,000   | 98.44%      | 17.56%      |
| Return if BTC = \$50,000   | 109.38%     | 19.51%      |
| Return if BTC = \$55,000   | 120.31%     | 21.46%      |
| Return if BTC = \$60,000   | 131.25%     | 23.41%      |
| Return if BTC = \$65,000   | 142.19%     | 25.37%      |
| Return if BTC = \$68,789   | 144.15%     | 23.28%      |

## BMN1 Secondary Market Returns Upon Maturity

The bitcoin price declined in early 2022, and BMN1 currently trades for ~\$150,000 on secondary markets. With our projected total bitcoin yield of 6.657 - 11.8, the secondary market pricing of BMN1 would value the underlying bitcoin at ~\$12,759 - \$22,643, or a potential 37%+ discount from the current market value.

The seemingly low valuation is partially due to the time value of money and likely also due to an illiquidity discount. Trading volumes are thin on the secondary markets BMN1 trades on (BMN1 averages ~\$30,000 in volume per 24 hours on Bitfinex). Investors may be demanding a discount to hold BMN1 rather than bitcoin, given that bitcoin is much more liquid. It's also possible that the market is simply mispricing the asset. The asset is relatively

new and bespoke, and many crypto investors are unaware of its existence. The price may reflect its future value better as more investors learn about the asset.

We have analyzed different bitcoin price scenarios and the potential returns for investors buying BMN1 on secondary markets. We found that BMN1 is a much more attractive investment. The price of BMN1 on secondary markets on October 28th per STM.co was \$150,736.60. For comparison, we have included the potential returns of "buy & hold" investors. The simulated "buy & hold" investors entered their position at the year-to-date moving average price of bitcoin, which is \$34,135. The results are shown below:

| BTC Price (52 Week Low - ATH) | Total Return For BMN1 Secondary Market Investors (yield = ~12.51 bitcoin) | Total Return For BMN1 Secondary Market Investors (yield = ~6.657 bitcoin) | Total Return For "Buy & Hold" Investors (Entry Price = Current Bitcoin Price) |
|-------------------------------|---|---|---|
| \$ 17,708                     | 38.79%  | -12.99%   | \$ 12,759.17  |
| \$ 20,000                     | 56.75%  | -1.73%  | \$ 12,759.17  |
| \$ 25,000                     | 95.94%  | 22.83%  | \$ 12,759.17  |
| \$ 30,000                     | 135.12%   | 47.40%  | \$ 12,759.17  |
| \$ 35,000                     | 174.31%   | 71.97%  | \$ 12,759.17  |
| \$ 40,000                     | 213.50%   | 96.54%  | \$ 12,759.17  |
| \$ 45,000                     | 252.69%   | 121.10%   | \$ 12,759.17  |
| \$ 50,000                     | 291.87%   | 145.67%   | \$ 12,759.17  |
| \$ 55,000                     | 331.06%   | 170.24%   | \$ 12,759.17  |
| \$ 60,000                     | 370.25%   | 194.80%   | \$ 12,759.17  |
| \$ 65,000                     | 409.44%   | 219.37%   | \$ 12,759.17  |
| \$ 68,789                     | 439.13%   | 237.99%   | \$ 12,759.17  |

In the constant hash rate scenario, the returns for an investor who purchased BMN1 at the current market price are significantly greater than "buy & hold" investors. Even if bitcoin falls to its 52-week low, the BMN1 investor would still have an unrealized gain of 50%+. If bitcoin were to reach its all-time high again, BMN1 investors would earn almost 5X greater returns than "buy & hold" investors. Additionally, the "buy & hold" investor would have to enter their position with a price of \$12,759.17 / bitcoin to earn the same returns of BMN1 secondary market investors shown above. This is because

\$12,759.17 is essentially the discounted price for which BMN1 investors are buying bitcoin, given BMN1's current secondary market price. This represents a current discount on bitcoin of almost 37%+, given that bitcoin was trading on October 28th for \$20,352.51.

We acknowledge that bitcoin's 52-week moving average price may misrepresent the current "buy & hold" investor return. To show the opportunity available today, we have included a scenario analysis of the returns of BMN1 secondary market investors versus "buy & hold" investors.

| BTC Price (52 Week Low - ATH) | Total Return For BMN1 Secondary Market Investors (yield = ~11.8 bitcoin) | Total Return For BMN1 Secondary Market Investors (yield = ~6.7 bitcoin) | Total Return For "Buy & Hold" Investors (Entry Price = Current Bitcoin Price) |
|-------------------------------|--|---|---|
| \$ 17,708                     | 38.79%   | -21.77%   | -12.99%   |
| \$ 20,000                     | 56.75%   | -11.65%   | -1.73%  |
| \$ 25,000                     | 95.94%   | 10.44%  | 22.83%  |
| \$ 30,000                     | 135.12%  | 32.53%  | 47.40%  |
| \$ 35,000                     | 174.31%  | 54.62%  | 71.97%  |
| \$ 40,000                     | 213.50%  | 76.71%  | 96.54%  |
| \$ 45,000                     | 252.69%  | 98.80%  | 121.10%   |
| \$ 50,000                     | 291.87%  | 120.89%   | 145.67%   |
| \$ 55,000                     | 331.06%  | 142.97%   | 170.24%   |
| \$ 60,000                     | 370.25%  | 165.06%   | 194.80%   |
| \$ 65,000                     | 409.44%  | 187.15%   | 219.37%   |
| \$ 68,789                     | 439.13%  | 203.89%   | 237.99%   |

The table above included bitcoin price scenarios ranging from the 52-week low to the all-time high. At the BMN1 prices on October 28th, if bitcoin's price retreats to its 52-week low, given our constant scenario estimate, BMN1 investors would

still profit from their investments while "buy & hold" investors would have a negative return on investment. However, in our increased hash rate scenario, "buy & hold" investors perform slightly better than BMN1 investors.



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## Other Bitcoin Institutional Product Analysis

As noted earlier, institutions began to demand exposure with the popularization of Bitcoin. As a result, institutions created and managed private Bitcoin funds or bought structured products for regulated investment into Bitcoin. This section will compare BMN1 to other institutional-grade Bitcoin investment products. Most Bitcoin investment products tend to be derivatives, whereas BMN1 provides investors with direct exposure to Bitcoin.

There has been persistent market demand for more direct Bitcoin exposure through a US-based spot Bitcoin ETF. Internationally, ETFs are popular because they enable investors to add exposure to multiple securities without directly purchasing the assets. The first product recognized at large as an institutional-grade Bitcoin product was Grayscale Bitcoin Trust (GBTC). GBTC tried to convert its \$13.5B fund into an ETF and was rejected by the SEC this June. The SEC claimed Grayscale didn't answer how they would prevent market manipulation among other concerns. Regulatory uncertainty has been the root of institutions' unwillingness to enter the cryptocurrency market. However, Bitcoin Futures ETFs exist in the United States today. Internationally, spot Bitcoin ETFs have now been approved by countries within Europe, South America, Australia, and Canada.

With the creation of products such as GBTC and Bitcoin ETFs, institutional investors have an avenue to invest in Bitcoin within their corporate governance. To show how BMN1 compares to these other institutional-grade Bitcoin investment products, we will compare the price action of different institutional-grade Bitcoin investment products versus BMN1. Bitcoin spot ETFs provide investors with the most direct Bitcoin exposure and the highest degree of investor protection. BMN1 is similar to a passively traded spot Bitcoin ETF fund because they have passive exposure to a basket of underlying bitcoins.

With BMN1 investments, investors buy rights to computational power that rewards them in Bitcoin. This differs from a spot Bitcoin ETF investment, where investors simply gain exposure to spot Bitcoin. We were interested in how Bitcoin spot ETFs are currently trading compared to Bitcoin, BMN1, and GBTC price action.

It's important to note that on BMN1's issuance, Bitcoin cost \$56,048.94 and is now trading for \$20,352.51 on October 28th, 2022. This represents a negative ROI of -63.68% for Bitcoin investors in this time frame. Let's look at how BMN1 and other institutional products have held up in the ongoing cryptocurrency winter. The average issuance price of BMN1 was \$293,458.25. The current secondary market value of BMN1 is now \$150,736.60. This represents an unrealized capital loss of -48.63% on average for BMN1 investors at today's price. Despite this, investors who invested in BMN1, as opposed to buying bitcoins, have been protected from an additional 15%+ loss on their investment

Let us look at how this compares with other popular Bitcoin products among institutional investors. As mentioned above, one of the most known products is Grayscale Bitcoin Trust (\$GBTC). When BMN1 was issued, GBTC traded for \$47.57 — it is now trading at \$12.06, representing a loss of -74.65%.



**There is currently a plethora of Bitcoin ETFs trading, but no Bitcoin spot ETFs are available to US investors. For this section, we chose to analyze the price action of four Bitcoin ETFs trading internationally and two Bitcoin futures ETFs trading in the United States:**

#### **Purpose Bitcoin ETF (\$BTCC.U) - Bitcoin Spot ETF**

Price on BMN1 Issuance (4/7/21): \$10.64

Current Price (10/28/22): \$4.11

**Unrealized ROI: -61.42%**

#### **Evolve Bitcoin ETF (\$EBIT.U) - Bitcoin Spot ETF**

Price on BMN1 Issuance (4/7/21): \$21.53

Current Price (10/28/22): \$10.44

**Unrealized ROI: -51.51%**

#### **CI Galaxy Bitcoin ETF (\$BTCX.U) - Bitcoin Spot ETF**

Price on BMN1 Issuance (4/7/21): \$10.83

Current Price (10/28/22): \$4.18

**Unrealized ROI: -61.40%**

#### **3iQ CoinShares Bitcoin ETF (\$BTCQ.U) - Bitcoin Spot ETF**

Price on BMN1 Issuance (4/7/21): \$9.40

Current Price (7/26/22): \$3.40

**Unrealized ROI: -63.82%**

#### **ProShares Bitcoin Strategy ETF - Bitcoin Futures ETF**

Price on BMN1 Issuance (10/21/21 - the launch of BITO): \$40.83

Current Price (10/28/22): \$12.74

**Unrealized ROI: -68.80%**

#### **Valkyrie Bitcoin Strategy ETF (\$BTF) - Bitcoin Futures ETF**

Price on BMN1 Issuance (10/23/21 - the launch of BITO): \$24.95

Current Price (7/26/22): \$7.95

**Unrealized ROI: -68.14%**

The bitcoin price fell -63.38% after BMN1 issuance, leading the four spot ETFs to average an unrealized ROI of -59.54%. This is better than the two futures ETFs, whose average unrealized ROI was -68.47%. As seen by the unrealized ROI compared with Bitcoin, all four spot ETFs have traded with more correlation to the price of a bitcoin than Bitcoin Futures ETFs and GBTC and thus performed slightly better. Yet still, all ETFs analyzed, spot or futures, have performed worse than BMN1.



Excluding BMN1, Bitcoin investment products have left investors with the potential for a higher loss than had they “bought & held” Bitcoin. Furthermore, BMN1 has not declined as much as these Bitcoin derivatives and ETFs. BMN1, as mentioned, was down -48.63% over this same period, Bitcoin was down -63.38%, and ETFs were down an average of -62.52%. This statistically shows the downside protection against bitcoin price depreciation.

## Conclusion

BMN1 represents an opportunity for investors to gain Bitcoin exposure with few barriers to entry, direct exposure to Bitcoin, and unprecedented downside protection against Bitcoin’s volatile price. As a result, investors in BMN1 have performed significantly better than investors who bought and held spot Bitcoin. BMN1 also performs better than the most popular Bitcoin ETFs — making it the most attractive product available to institutional and qualified investors.

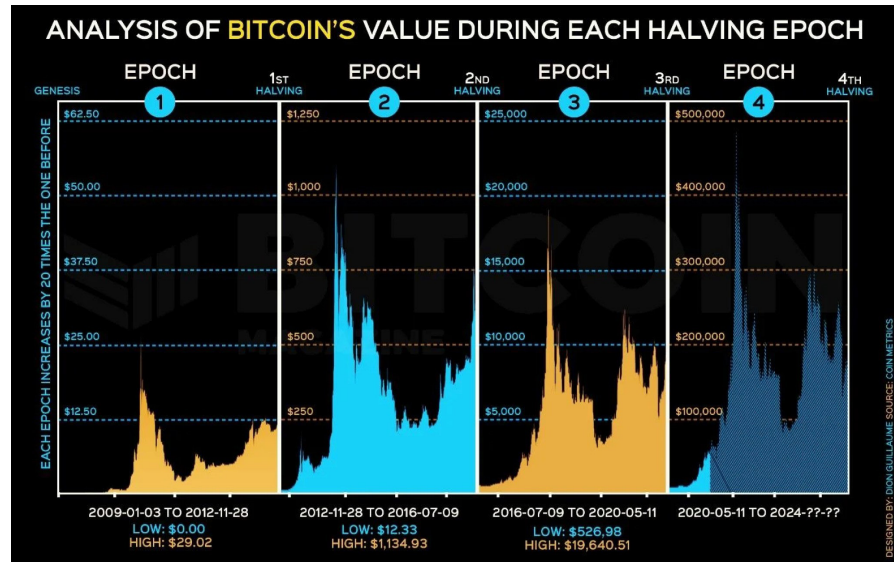
# Appendix

## Key Findings

- BMN1's performance depends on the Bitcoin price on the maturity date of the investment contract (July 7th, 2024). Market participants use many different frameworks to make predictions — analyzing halvings is one of the favorites in the Bitcoin Community.
- Bitcoin's next halving is predicted to take place in May 2024. Halvings historically are significant catalysts for Bitcoin bull runs.
- Between each halving, bitcoin's price declines dramatically before reaching new all-time highs.

## Bitcoin Fundamental Analysis

The most essential factor for BMN1's performance is the price of Bitcoin. Depending on models or theories about the future of Bitcoin, a wide variety of price predictions can be made. For example, some believe that the development of the Lightning network will create widespread adoption, while others are believers in the Stock-to-Flow Model<sup>4</sup> that prices Bitcoin at over \$1.25 million by 2026.



The vital date to monitor is July 2024—when the BMN1 token converts into Bitcoin for its holders. Interestingly, May 2024 will likely be one of the largest catalysts for the first cryptocurrency: its fourth halving. Will history repeat itself? Let's flashback.

<sup>4</sup>A stock-to-flow model is a measure of the new supply relative to existing supply and is often used to help predict the price of an asset.



### Epoch 1: Establishment to First Halving<sup>5</sup> (1/3/2009 - 11/28/2012)

In the first epoch, Bitcoin found its footing after first being released by Satoshi Nakamoto in 2009. However, it took several months to see early adopters come on board and establish a dollar-based value, with Laszlo Hanyecz's 10,000 bitcoin pizzas cementing its price. If an average pizza costs \$10, this prices a bitcoin at \$0.001. During this time, Bitcoin saw its value rise from ~\$0.00 to as high as \$29.02, with early use limited to trading over forums and little exchanges.



### Epoch 2: First Having to Second Halving (11/26/2012 - 7/9/2016)

In the second epoch, Bitcoin started to see further adoption. Although the infamous Mt. Gox exchange was founded in 2010 and had seen some controversy in 2011 with several hacks, by 2013 and early 2014, it was handling as much as 70% of all Bitcoin transactions before one final hack shut it down. Bitcoin saw most of its value disappear as hundreds of thousands of Bitcoin were stolen, and Silk Road's creation led the media to associate Bitcoin with illegal activities. The second epoch had Bitcoin's value traded from as low as \$12.33 to a high of \$1,134.93.



### Epoch 3: Third Halving to Fourth Halving (7/9/2016- 5/11/2022)

Bitcoin had seen its adoption grow to new heights by the third epoch. The world's largest investors and institutions were finally taking notice, with many opening up to the potential use as both an asset and store of value. As a result, the bitcoin price ran from a low of \$526.98 to its famous peak of \$19,640.51 in late 2017. As a result, Bitcoin gained widespread news coverage, as did the subsequent plunge in value.



### Epoch 4: Fourth Halving to Fifth Halving (5/11/2022 - Second Half of 2024)

We currently find ourselves in the fourth epoch. Public companies such as MicroStrategy and Tesla have held Bitcoin on their balance sheets. Other prominent companies have begun to develop solutions to integrate Bitcoin into their businesses and platforms. After reaching a high of over \$68,000, widespread corrections have brought the price down to as low as \$18,000, where Bitcoin has been attempting to stabilize and work its way higher. The Bitcoin Lightning Network has continued to develop and solidify. Countries like El Salvador even adopted Bitcoin as a legal tender.

<sup>4</sup> A stock-to-flow model is a measure of the new supply relative to existing supply and is often used to help predict the price of an asset.

<sup>5</sup> A halving is when a blockchain sees its mining rewards cut in half, this is precoded into the rules of the blockchain.

# The Pattern and What The Future Holds

Drastic price increases have followed all Bitcoin halvings. While this is the first time that Bitcoin will have to contend with a recession and macro-market drawdowns, it's not out of the question that Bitcoin can reach new highs. There is no doubt that institutional investors will begin to deploy large amounts of capital as their customers are looking for exposure. In time, Bitcoin's 21 million supply scarcity, halvings to lower block rewards, and widespread adoption can see it overtaking gold in terms of total market cap. If this occurs, each bitcoin would be priced at over \$500,000. Given the uncertainty of macro-market fundamentals, if inflation and real

GDP cannot stabilize, causing stagflation, price predictions must be altered. Average bear markets last 16 months, which may result in a slow downhill grind in the price of bitcoin.

These are just predictions, but one thing for sure is that we at Security Token Market will bring transparency to the exponentially growing blockchain industry. With products such as BMN1 coming to market, understanding them and having trusted data analysis is key to their adoption. So check back in with Security Token Market for updates on BMN1 performance and Blockstream news.



# ABOUT THE AUTHOR



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With work experience in real estate, venture capital and several of his own entrepreneurial endeavors; Jackson is enthralled by the idea of democratizing access to commercial real estate.

Now, via tokenization, he sees avenues to create equitable global markets that were historically private with limited access. Jackson engages the Security Token Market community with consistent content, highlighting the infinitum use cases and specific investment opportunities within the tokenization industry.



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Nosa James is Head of Product at Security Token Market. Nosa manages STM's product and data science teams with the goal of increasing transparency within the security token ecosystem. With previous experience at JP Morgan and as the Founder of Marathon Labs, Nosa uses his expertise in product strategy, finance, and analytics to build engaging products and cover the security token industry via analyst reports.

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# ABOUT SECURITY TOKEN MARKET

Security Token Market is a leading brand in the security token industry, with a highly engaged audience, receiving 150k+ monthly impressions site-wide on stomarket.com. We currently track over 200 security tokens and tokenized stocks across 9 different live marketplaces worldwide. These users vary geographically, and the website receives traffic from over 164 countries each month. With a current engagement (click-through) rate consistently above 2% in addition to the much higher lifetime value of the average security token enthusiast and investor when compared to a general retail impression via Google Ads or Facebook, advertising drives high-value traffic. Our website authority continues to grow as the industry relies on the information aggregated by the API and curated by our data team, turning STM into the leading source for security token information and data. The domain currently sits first on Google for multiple keywords, including 'Security Token Market Cap,' 'STO Market cap,' 'Security Token Price,' and 'Token Market.'

The Security Token Show is the longest-running and largest security token podcast in the industry. The STS podcast has resulted in outreach from industry insiders and requests for introductions to investment firms exploring the industry. As a niche financial technology podcast that has positioned itself as the primary weekly digest for the industry, the show has developed an audience of quality industry participants that can be targeted directly through this medium.

Security Token Market is also an industry influencer via its various social media channels. The Security Token Market (@stomarket) Twitter account is the cultural epicenter of the security token industry, delivering high-quality research and validation for the industry, positive support and recognition for developing projects and communities, and attentive engagement within its own community.

Connect with STM at [megan@stomarket.com](mailto:megan@stomarket.com).



# ABOUT SECURITY TOKEN ADVISORS

Security Token Advisors (STA) is the original consulting company in the industry, advising the first security token offerings (STOs) as early as 2017. The US and global market infrastructure for digital securities has since developed to the point where institutional issuers are considering alternatives to traditional financing and liquidity solutions.

STA advises businesses, technology providers, industry service providers, and even blockchain protocols to help them create new partnerships and to optimize their service offerings for the marketplace. STA helps clients understand the security token technology and legal framework in order to apply it to their business.

Security Token Advisors (STA) acts as your trusted guide through multiple stages such as structuring the investment, regulatory requirements, tokenization strategy, vendor selection, STO project management, marketing approach, distribution strategy, and liquidity solutions. Clients choose STA for deep industry experience, STO process optimization, and targeted introductions to the most relevant vendors at each stage of the process.

Successful STOs require professional structuring, as well as coordination of multiple partners to create the full token stack. STA will advise on the best approach and coordinate the necessary third-party services including lawyers, marketing, brokerage services, technology firms, etc. STA will also advise on distribution strategy, marketing and communications, and how to facilitate a digital securities transaction. Once the offering is completed, STA can advise on the investor relations strategy, token liquidity strategy and implementation, and post-issuance management processes and controls.

STA understands that every project is different which is why we do not take the "one-size-fits-all" approach. Connect with Security Token Advisors at [peter@securitytokenadvisors.com](mailto:peter@securitytokenadvisors.com).

