

The logo consists of a stylized 'P' formed by a 3x3 grid of white squares.

POWDER.

Protocol

Whitepaper

Version 1.1 - Published July 2024

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What is POWD3R Protocol

POWD3R Protocol pioneers a Web3 approach to Real World Asset (RWA) tokenization, enabling fractional ownership in a verifiable Participants gain access to a tangible, auditable, BTC cash flow, all while enjoying the core benefits of Web3: self-custody, privacy, permissionless access, trustlessness, and transparency.

Bitcoin Mining on Web3

In recent years, Bitcoin mining has evolved into a capital-intensive industrial operation, demanding specialized expertise and substantial financial resources. This has created a barrier to entry, effectively excluding many individuals from directly participating in and benefiting from the network.

In many regions, particularly those with struggling economies, limited access to financial products, high inflation, weak currencies, and potential government censorship further exacerbate this issue.

POWD3R's tokenization of a real Bitcoin mining operation democratizes access, empowering both individuals and companies, regardless of their location or financial resources, to invest in and own a share of Bitcoin mining. This model enables participants to generate a consistent BTC cash flow in a trustless, permissionless, private, auditable, and self-custodial manner.

Bitcoin Mining on a Bitcoin Layer 2

Many Web3 decentralized finance (DeFi) applications offer bitcoin as a wrapped token. However, this often requires users to navigate complex processes, swapping bitcoin for other tokens to bridge in/out, manage wrapped bitcoin, and pay transaction fees in non-native tokens like ETH, BNB, or SOL.

Existing bitcoin mining projects with Web3 elements often operate on Ethereum or other non-bitcoin chains. They may require purchasing NFTs that simply replace traditional contracts or involve cumbersome web2 logins and KYC processes, which crushes the purpose of a Web3 implementation.

POWD3R Protocol takes a fundamentally different approach. We envisioned a revolution in Bitcoin mining that could only be achieved on a smart contract-enabled Bitcoin Layer 2, with BTC as the native token. While this required waiting for the right technology to mature, we've now realized this vision.

POWD3R operates on a Bitcoin layer 2 with 2-second block times, \$0.001 transaction fees, utilizing BTC as the native currency with a seamless BTC bridge. This eliminates the need to swap BTC for other tokens, enabling swift, direct transfers to and from any Bitcoin wallet, including hardware wallets, software wallets, or centralized exchanges.

For instance, a user could bridge BTC from a Trezor hardware wallet, effortlessly buy or sell mining tokens, engage with the broader ecosystem, provide liquidity for additional income, and



periodically bridge out earned BTC back to their Trezor wallet. All of this can be done privately and without reliance on centralized financial institutions.

Perpetual Mining Model

"Bitcoin is digital gold – growing harder, smarter, faster, & stronger due to the relentless progression of technology" –Michael Saylor

Traditional mining operations face a significant challenge: hardware depreciation. Bitcoin mining machines, also known as ASICs, just like mobiles or personal computers, become obsolete and unprofitable requiring replacement with newer up-to-date architectures. Current ASICs have a projected lifespan of about 5 to 8 years. This constant need for upgrades imposes a disruption on long-term mining strategies.

POWD3R Protocol addresses this challenge with an innovative solution.

POWD3R Protocol tackles this issue head-on with a groundbreaking approach. We employ a carefully designed algorithm to maintain reinvestment of a portion of mining revenue. This is used to continuously renew our mining infrastructure, thus countering depreciation and achieving a perpetual profitable mining operation.

By proactively addressing hardware obsolescence, POWD3R Protocol is designed to endure for years, thriving across multiple Bitcoin cycles and halving events. Positioning POWD3R as a unique opportunity for long-term participation and success in the Bitcoin mining landscape.

Team: Web3 Architects with Bitcoin Expertise

POWD3R is an independent, crypto-native, ownerless, borderless Web3 Foundation dedicated to democratizing Bitcoin mining and increasing Bitcoin utility through Web3.

Our core team, a collective of accomplished-career entrepreneurs, engineers, financiers, economists, and marketers, brings a global perspective honed through experience living abroad and working for multinational companies. This powerhouse team boasts a combined track record excelling in Bitcoin mining since 2017 and pioneering Web3 projects across major blockchains since 2019. Our diverse backgrounds and international expertise uniquely position us to lead the charge in Bitcoin's Web3 revolution.

Building the Future with Industry Leaders: Institutional Partnerships

True to the collaborative spirit of Web3, POWD3R Protocol values building strong partnerships with established industry leaders. Inspired by Sir Isaac Newton's famous quote, "If I have seen further, it is by standing on the shoulders of giants," POWD3R embraces that ethos. Strong partnerships and a collaborative environment are essential for accelerating innovation and building a robust infrastructure for the future of Bitcoin.



Powering Perpetual Mining:

- ❑ **ARTHUR INC:** Our collaboration with ARTHUR INC strengthens our Bitcoin mining operations, ensuring access to cutting-edge mining technology and expertise.
- ❑ **Luxor Technology:** By partnering with Luxor, a leading Bitcoin mining pool and technology provider, we leverage their mining applications and optimize our efficiency.
- ❑ **Hashrate Index:** Hashrate Index provides invaluable data analysis, strategy development, and access to Bitcoin mining derivatives, further solidifying our efficiency and long-term vision.

Beyond Mining: Unlocking Bitcoin's Potential:

- ❑ **Bitcoin Virtual Machine (BVM):** Our partnership with BVM unlocks the power of smart contracts and Layer 2 solutions for Bitcoin, enabling versatile and dynamic web3 ecosystem on the leading blockchain.
- ❑ **Avail Project:** Collaboration with Avail empowers POWD3R Protocol with advanced scalability solutions and secure blockchain data availability.

Investing in the Future:

- ❑ **AION Ventures:** AION Ventures, a firm with extensive web3 expertise provides strategic guidance and advisory support, propelling POWD3R's growth and innovation.

This is just the beginning. We actively seek partnerships with visionary institutions that share our commitment to propelling Bitcoin and Web3 forward.



2024 Cycle: Propelling Bitcoin and Web3 Innovation

Unlocking Bitcoin Physical Infrastructures through Real World Assets Tokenization

Decentralized Physical Infrastructures (DePIN)

By leveraging a trustless and permissionless network of participants, Bitcoin mining embodies the core principles of DePIN, showcasing how decentralized networks can effectively manage and secure critical infrastructure.

The buzz around DePINs in 2024 is driven by several key factors. Centralized control of resources in the 2022 crypto exchange landscape and recognition of the limitations and vulnerabilities of centralized systems has fueled the desire for blockchain-based alternatives. This has led to increased interest in DePIN protocols, which offer a way to build entirely on decentralized rails.

DePINs distribute control and ownership, mitigating risks like single points of failure and monopolistic practices. Additionally, advancements in blockchain technology, such as improved scalability and interoperability, have made DePINs more feasible and attractive. This rise aligns with the broader trend towards decentralization, catering to the demand for greater autonomy and democratization of resources. This convergence of technological progress and market demand positions DePINs as a transformative force in the crypto and infrastructure landscapes, making it one of the hottest narratives of this year.

Real World Assets Tokenization (RWA)

2024 is witnessing a surge in interest around Real-World Assets (RWAs) on the blockchain. This excitement is fueled by forecasts from industry giants like Blackrock, who predict the RWA tokenization market to reach a staggering \$5 trillion by 2030. RWAs bridge the gap between traditional assets like real estate, commodities, or even intellectual property and the efficiency and transparency of blockchain technology. This opens doors for new investment opportunities, increased liquidity, and fractional ownership, making previously inaccessible assets available to a wider audience. The RWA narrative is capturing the imagination of investors and reshaping the financial landscape - making it a defining trend of 2024.

Bitcoin mining has become highly specialized and capital-intensive. Expensive equipment costs, allied with a relentless pursuit for the most efficient hardware and the cheapest energy, drives economies of scale to the point where only operations with multimillion-dollar investments are viable. This has created significant entry barriers for individuals and concentrated mining power in the hands of large corporations, increasing centralization and reducing the network's initial vision of broad, decentralized participation.



RWA-powered Physical Infrastructures: Power to the People

"Bitcoin is a swarm of cyber hornets serving the goddess of wisdom, feeding on the fire of truth, exponentially growing ever smarter, faster, and stronger behind a wall of encrypted energy." –Michael Saylor

POWD3R Protocol sits at the intersection of two hot trends in crypto for 2024: Real-World Assets (RWA) and Decentralized Physical Infrastructure Networks (DePIN). By tokenizing Bitcoin mining capacity, we transform it into a tradable RWA, allowing participation in this space beyond the constraints of managing physical infrastructure. This democratizes Bitcoin mining, making it accessible to a massive audience.

POWDER Protocol pulverizes the control of Bitcoin mining, democratizing ownership and reigniting the spirit of decentralization. This positions POWDER at the forefront of an unstoppable movement towards a more distributed and secure technological infrastructure.

Beyond the ASIC Cliff and Energy Race: Perpetual Bitcoin Mining

The Bitcoin mining landscape faces a critical challenge: maintaining profitability in an increasingly competitive environment towards lower energy costs. POWDER Protocol tackles this head-on with a novel, two-part approach:

Ultra-Efficient Energy Acquisition

POWD3R has access to energy at a remarkable range of \$0.035 USD per kilowatt-hour (kWh). This undercuts the industry standard, typically ranging around \$0.060 USD/kWh, with the most efficient miners averaging \$0.045 USD/kWh (according to a 2024 report by Coinshares). Even after hosting and operational costs, this significant base cost advantage directly translates to higher profit margins for our mining operations.

Algorithmic ASIC Optimization

POWD3R Protocol implements a sophisticated algorithmic reinvestment strategy. An algorithmic portion of mining revenue is continuously allocated into adding flagship model ASICs, securing continuous modernization of our operation throughout the years. This process essentially counters traditional hardware depreciation, ranging from 15–20% per year.

Unlocking Time: Perpetual Mining Model

The true power lies in the interplay between these two elements. The sub-\$0.04 energy cost fuels the algorithmic modernization engine. Lower energy expenditure translates to more capital available for ASIC optimization, creating a positive feedback loop that enhances efficiency and long-term profitability, decoupled from typical ASIC lifespan.



This innovative approach represents a significant technical leap forward in Bitcoin mining. By combining ultra-efficient energy acquisition with algorithmic ASIC optimization, POWDER Protocol pioneers a sustainable and perpetual mining model, agnostic of time, unlocking long-term viability and profitability in the ever-evolving Bitcoin ecosystem.

Unlocking Bitcoin's Value: Secure Layer 2 with Seamless DeFi Integration and BTC Bridging

The year 2024 is witnessing an incredible surge in excitement around smart contracts-enabled Bitcoin Layer 2 solutions, particularly those compatible with the Ethereum Virtual Machine (EVM). POWD3R Protocol embraces this evolution by offering a Layer 2 built for:

- ❑ **Smart Contract Functionality:** Unleash the power of decentralized applications (dApps) on the Bitcoin network, enabling innovative DeFi protocols like automated lending and borrowing, prediction markets, liquid staking derivatives, real assets tokenization, and complex financial instruments. All built on top of the secure foundation of Bitcoin.
- ❑ **EVM Compatibility and Composable DeFi:** Our Layer 2 seamlessly bridges the gap between the Bitcoin and Ethereum ecosystems. Developers familiar with the thriving EVM environment can effortlessly build or integrate existing dApps on Bitcoin, fostering a more interconnected DeFi landscape. This compatibility unlocks the power of composability, allowing a vibrant community of EVM developers to leverage existing DeFi building blocks and functionalities within their Bitcoin dApps.
- ❑ **Direct BTC Bridging:** POWD3R Protocol offers a seamless two-way bridge for BTC tokens. Move your bitcoin tokens freely between Layer 2 and Bitcoin mainnet chain, enabling smooth interaction with hardware wallets, software wallets, centralized exchanges (CEXs), and other Layer 2s like Liquid or Lightning networks.

A Trillion-Dollar Opportunity: Waking Up Bitcoin's Dormant Potential

Vast amounts of bitcoin are sitting idle. Bitcoin's market capitalization is expected to exceed two trillion dollars during this cycle. By unlocking this latent value with a secure Web3-enabled Layer 2 solution and seamless bridge, POWD3R Protocol paves the way for a utility-driven "Web3 awakening" for Bitcoin.

This innovative solution unlocks a new era of financial instruments and possibilities, while giving users greater control and access to Bitcoin's unlocked value within a thriving DeFi ecosystem.

Another Trillion-Dollar Opportunity: Web3 Flight-to-Quality Potential:

The introduction of robust smart contracts on Bitcoin could trigger a paradigm shift. Many users, currently navigating other smart contract-enabled blockchains, might be drawn to the unparalleled security and brand recognition of Bitcoin. This potential "flight-to-quality" scenario could ignite a parabolic growth in Bitcoin-based dApps, attracting a wave of developers and users to the POWD3R Protocol Layer 2.



Fortune Favors the Bold:

We're not just offering a Layer 2 solution, we're unlocking the full potential of Bitcoin by making it smarter, faster, and more accessible for developers and users alike. The timeline and pace at which this huge potential will be unlocked is anyone's best guess, but POWD3R Protocol is positioned at the forefront of this transformative trend.



The Engine Room: Diving into the Tech Stack

At the Blockchain Level

Monolithic vs Modular Blockchains

Monolithic Architecture: The Dawn of Blockchain

Traditional blockchains, often referred to as monolithic blockchains, were the first to emerge and acted as the foundational technology for the entire blockchain ecosystem. They work as a single ledger that not only records transactions but also validates them through consensus mechanisms like Proof-of-Work (PoW) and stores all historical data. This "all-in-one" approach characterizes these early blockchains, with popular examples including Bitcoin, Ethereum (1.0) and Solana.

Regular blockchains need to perform four fundamental tasks:

- ❑ Consensus: The foundation of trust. Blockchain nodes agree on the validity of new transactions, prevent double-spending and maintain a consistent ledger of truth.
- ❑ Execution: For smart contracts-enabled blockchains, execution breathes life into smart contracts. Smart contracts and transaction logic are processed and carried out.
- ❑ Data Availability: The cornerstone of transparency. Transaction data is permanently stored and readily accessible for verification by peers and network participants.
- ❑ Settlement: When truth becomes immutable. The final transfer of ownership or assets between parties is completed based on the validated transactions. This is when "finality" is reached.

The Blockchain Trilemma:

The blockchain trilemma states that a blockchain can only have two of three possible qualities, but never all three at the same time:

- ❑ Decentralization
- ❑ Security
- ❑ Scalability

The trilemma suggests that optimizing for one aspect often comes at the expense of the others. For instance, Bitcoin and Ethereum prioritize security and decentralization, limiting its scalability. Solana focuses on scalability sacrificing decentralization.

This inherent trade-off lies at the heart of the difficulty in scaling blockchains effectively.



Enter, Modular Blockchain Architecture: Breaking Down the Monolith

To address the limitations of monolithic architecture, a new generation of blockchains – modular blockchains – have emerged. These innovative designs break down the "all-in-one" approach by splitting functionalities across specialized layers. This unlocks the blockchain trilemma and enables improvements in all areas, such as speed, scalability, flexibility, parallelization, allowing a blockchain to focus on its specific core functionalities. Known examples of modular blockchains are Near, Injective, Celestia, Cosmos, and examples of modular Layer 2s are Optimism, Arbitrum, ZkSync.

Innovation at its Core: POWD3R Protocol's Secure and Scalable Platform for Bitcoin and Web3

POWD3R Protocol scales by offloading consensus and data availability to a high-performance, application-specific chain. It leverages optimistic rollups to inherit Bitcoin's security for final settlement, ensuring a secure and scalable system.

POWD3R Protocol harnesses the most cutting-edge blockchain architecture currently available, and we are dedicated to pushing the boundaries of blockchain technology, ensuring POWD3R Protocol's architecture remains at the forefront of Bitcoin and web3 innovation.

Modular Bitcoin Layer 2 with Bitcoin Virtual Machine (BVM Network)

POWD3R Protocol leverages the power of Bitcoin Virtual Machine (BVM Network), a unique Bitcoin Layer 2 solution provider. BVM functions as a modular toolkit, offering customizable building blocks to construct specialized Layer 2 solutions for various applications. Just like Lego bricks for Bitcoin – BVM provides the core components, allowing developers to tailor-make Layer 2 environments for specific needs, such as DeFi, gaming, or even AI applications.

POWD3R Protocol taps into BVM Network's modularity to create a bespoke Layer 2 solution perfectly aligned with its core functionalities. This translates to:

- ❑ **Focused Efficiency:** By selecting specific BVM building blocks, POWD3R can create a Layer 2 environment perfectly suited for its specific requirements.
- ❑ **Security by Design:** BVM solutions inherit the security of the underlying Bitcoin blockchain, ensuring a robust foundation for POWD3R's Layer 2.
- ❑ **Future-Proof Flexibility:** The modular nature of BVM solutions allows POWD3R to easily integrate additional functionalities in the future. As POWD3R's needs evolve, it can seamlessly adapt its Layer 2 environment with new BVM building blocks.
- ❑ **Ecosystem-wide Composability:** BVM facilitates interactions with other BVM projects, leveraging large-scale network effects and creating a rising tide that lifts all boats.

By harnessing BVM's modularity and composability, POWD3R Protocol, built on this adaptable Layer 2 foundation, is perfectly positioned to foster innovation within a blooming Bitcoin DeFi space.



The Backbone: Data Availability

In the rapidly evolving world of Web3 and Bitcoin Layer 2 solutions, ensuring robust data availability is paramount. Data availability refers to the guarantee that all transaction data within a block is accessible and verifiable by peers and network participants. This is not merely a technical necessity; it is the foundation upon which trust, scalability, and a seamless user experience are built.

Why Data Availability Matters

Being the foundation of modular blockchain Web3 projects, A solid data availability solution delivers the following core properties:

- ❑ **Trustless Verification:** In decentralized systems, trust is not assumed but verified. Data availability ensures that all transaction data is accessible and independently verifiable by all network participants. This maintains the blockchain's integrity and eliminates the need to trust a centralized entity.
- ❑ **Security and Fraud Prevention:** Without data availability, malicious actors could potentially hide or manipulate transactions. Data availability allows for fraud or validity proofs to be generated, ensuring invalid transactions are identified and rejected.
- ❑ **Scalability:** Modular blockchains separate different functions into different layers or modules. POWD3R blockchain can scale more effectively by offloading and parallelizing data availability to a dedicated high-performance, purpose-specific chain.
- ❑ **Decentralization:** A sophisticated data availability solution with a large and equitable set of validators ensures that data isn't controlled by any single entity, preventing potential censorship or manipulation.
- ❑ **Interoperability:** Modern data availability solutions facilitate cross-chain communication and interoperability between different blockchains, layers, dApps, and tokens. This enables more complex applications and interactions within the broader Web3 and blockchain ecosystem.

Avail: Powering Blockchain Unification

Avail is not just a data availability provider; it is a pioneer in unifying the fragmented Web3 ecosystem. Their technology addresses the core challenges of scalability and interoperability, making them an ideal partner for POWD3R Protocol.

Avail's ecosystem is designed to offer a superior experience for both users and developers, balancing the essentials of scalability, interoperability and security without compromise. The platform's structure is anchored in three primary layers:



Foundational Data Availability Layer with Fast Finality

This layer serves as the universal foundation that any blockchain can utilize to enhance its scalability and security. Avail DA's simple yet powerful design is flexible, accommodating various chains without imposing specific constraints or biases on them.

Based on first principles thinking, the base level of the unified stack needs to be a DA layer built with Data Availability Sampling based on validity proofs.

Data Availability Sampling (DAS) is a method used to efficiently verify that data is available and hasn't been tampered with in a blockchain, even without downloading the entire blockchain. In Avail, DAS leverages validity proofs and erasure coding to allow "light clients" (e.g., wallets or browsers) to quickly sample small portions of the data and mathematically confirm its presence and integrity, thus increasing efficiency and trust in the system without requiring the computational resources of a full node. This capability is crucial for maintaining the irrefutable source of truth in the DA layer and forms the foundation for Avail's broader "Unification Layer" vision.

New blocks are finalized every 1 min on Avail DA, the fastest of all DA layers. As soon as blocks are finalized by validators they can be quickly sampled and independently verified by light clients without needing to trust a full node.

Nexus Layer for Broad Interoperability

Rollups are important to solve scalability issues. In an ideal future, each dApp would be its own roll-up, only limited by its own performance. But the most important piece to this future is the seamless communication between them. A modularized world would only be as efficient as the messaging protocol that dictates cross-rollup communication.

For these communications to be trustless, it is important for a rollup to know if the executions were done correctly, and it has to verify this statement itself, so it does not have to trust a single entity to provide these guarantees.

Avail Nexus is a zero-knowledge (ZK) coordination layer built on top of Avail's data availability layer. Its primary purpose is to solve the issue of fragmented user experience and communication challenges that arise in a modular blockchain ecosystem with numerous rollups.

In essence, Avail Nexus acts as a central hub that unifies the fragmented rollup ecosystem. It simplifies cross-rollup communication, enhances security through aggregated proofs, enables secure asynchronous cross-rollup communication, and improves the overall user experience by providing a seamless and interoperable environment for different rollups to interact.

This layer is pivotal in crafting a seamless user experience across multiple scenarios, whether users are engaging with a single rollup, navigating multiple rollups within Avail, or even interacting with chains and non-native tokens in external ecosystems.



Fusion Security Layer

Avail Fusion is a security initiative designed to enhance the crypto-economic security of the Avail ecosystem. It achieves this by allowing established cryptocurrencies like BTC, ETH and SOL, as well as emerging rollup tokens created on Avail ecosystem, to be staked within Avail's consensus mechanism. This not only bolsters the security of the Avail network but also provides additional utility for these tokens, and marks one of the first instances where foreign tokens like BTC, ETH and SOL are utilized to power consensus on a different blockchain.

This innovative approach is inspired by projects like Eigenlayer, Babylon Chain, and Osmosis, and represents a significant step towards greater interoperability and security in the wide blockchain space.

By partnering with Avail, POWD3R is not just checking a data availability box; we are embracing a vision of a unified and scalable Web3 ecosystem. This strategic partnership positions us at the very forefront of innovation in the blockchain space, with a secure, transparent, and interoperable platform for pioneering a Web3 Bitcoin Layer 2 revolution.

Scaling: Rollups

Rollups are a game-changing technology for scaling blockchains, processing transactions off-chain while preserving the security of the underlying main chain. By bundling multiple transactions and submitting a single proof of validity to the main chain, rollups dramatically enhance transaction speed and cost-efficiency. Two primary types of rollups exist: optimistic and zero-knowledge (ZK) rollups, both established and secure.

POWD3R Protocol has chosen optimistic rollups for their superior transaction processing speed and throughput, along with seamless compatibility with existing Bitcoin infrastructure and smart contracts. This strategic choice prioritizes scalability, a key requirement for POWD3R's ambitious goals. While ZK-rollups boast faster finality, their complexity and higher computational demands make them a less ideal choice in the context of a booming Bitcoin L2 ecosystem. Moreover, Avail's innovative light clients and data availability sampling (DAS) features help to offset the longer finality times associated with optimistic rollups.

By utilizing optimistic rollups for settlement, POWD3R Protocol ensures all transactions, though initially processed off-chain, are ultimately secured and finalized on the Bitcoin main chain (L1). This design fundamentally inherits Bitcoin's renowned security and decentralization, as the finality of transactions is anchored in the underlying blockchain's rigorous security measures. As a result, POWD3R Protocol users benefit from the same unparalleled security as native Bitcoin transactions, establishing the protocol as a trusted, secure, and scalable platform for the future of Bitcoin-based Web3 operations.



The Hub: Trustless Decentralized Bridge

The Bitcoin Decentralized Bridge (BDB) stands as a cornerstone of POWD3R Protocol's infrastructure, designed to revolutionize the interoperability and utility of Bitcoin within the Web3 ecosystem. It provides a trustless and secure pathway for bidirectional transfer of BTC between the Bitcoin main chain (L1) and the emerging ecosystem of Bitcoin Layer 2 networks powered by the Bitcoin Virtual Machine (BVM).

Unlike centralized bridges that rely on a small group of trusted parties, the BDB operates on a decentralized model, allowing anyone to become a validator by staking BVM tokens. This democratized approach significantly enhances network security and resilience against potential attacks. Additionally, it fosters a more inclusive ecosystem by enabling broader participation in the bridge's operation and governance.

Security is paramount for the BDB. The protocol leverages a Bitcoin Tapscript to securely lock vault assets, ensuring that funds can only be released with the approval of a predetermined number of validators. This multi-signature mechanism adds a crucial layer of protection, minimizing the risk of unauthorized access or fraudulent activity.

Transparency and verifiability are also core principles of the BDB. All transactions, including deposits and withdrawals, are verified using Simplified Payment Verification (SPV) on smart contracts deployed on BVM-powered L2s. Furthermore, the bridge smart contract manages the Bitcoin header chain, making it accessible and auditable for all participants, enabling a transparent and accountable ecosystem.

In summary, the Bitcoin Decentralized Bridge is a transformative innovation that bridges the gap between Bitcoin's Layer 1 and Layer 2 networks. By prioritizing decentralization, security, and transparency, the BDB not only enhances the utility of Bitcoin within the Web3 ecosystem but also opens up a vast array of new possibilities for decentralized applications and financial innovation.

At the Application Level

Hashrate as a token

Transparency, Auditability

Hashrate is the measure of the computational power used by a proof-of-work (PoW) cryptocurrency network like Bitcoin. Miners compete to solve complex mathematical puzzles, and the hashrate reflects how quickly these calculations are performed. Successful miners are rewarded with newly minted tokens and transaction fees, incentivizing their participation in maintaining and securing the blockchain's integrity.

Each POWD3R Protocol token (PWDR) is fully backed by a known and verifiable hashrate capacity. All financial and mining statistics for POWD3R Protocol are transparently accessible within the dApp, including total mining capacity, token market capitalization, resulting hashrate per token and dollars per hashrate, treasury allocation for future mining expansion, and acquired but not yet installed mining capacity. Independent third-party mining pool watcher links are also



provided, ensuring complete auditability and transparency of the mining capacity backing each token.

Additionally, L1 and L2 wallet addresses receiving mining revenue are provided and can be independently audited on the blockchain, tracing their origin directly back to the corresponding mining operations. Due to the inherent transparency, auditability, and immutability of the Bitcoin blockchain, this process is inherently tamper-proof and immune to fraud.

Minting/Burning Tokens

Issuing new PWDR tokens can never be done unless backed by a corresponding mining capacity expansion – after it's paid for and deployed – ensuring every token remains fully backed. PWDR is not an inflationary token, as there is no allocation or emission for farming, staking rewards, etc.

In favorable markets for Bitcoin mining, POWD3R Protocol may raise funds for additional mining expansion. This doesn't present any disadvantage for current token holders as their mining capacity and revenue are not diluted. Quite the opposite, expansion benefits token holders by increasing POWD3R's capitalization, market share on Bitcoin mining, competitiveness, reach and overall health, and more importantly, promoting acquisition of new, more efficient mining hardware – this directly benefits current token holders.

In bear markets or when strategically advantageous, POWD3R or its hosting providers may choose to purchase and burn PWDR tokens in exchange for their underlying mining capacity, thereby permanently reducing the circulating supply. This is beneficial to token holders and it can enhance the token's scarcity, buy pressure, and potentially increase its value during unfavorable market conditions.

Auto-Compound and Perpetual Mining Algorithm

POWD3R token holders have two choices to receive their mining proceeds.

They may choose to receive their rewards in BTC, in which case their mined BTC will be available to be claimed any time. Once claimed, in the L2, they are available to be used within the ecosystem, interact with other applications or projects, be swapped, provide liquidity, or bridged out to Bitcoin Layer 1 to a hardware wallet, software wallet or centralized exchange.

Holders may also choose to auto-compound their mining, increasing hashrate and earnings over time. In this case, their mined BTC can be known, but are provisioned in an auto-compound treasury. Every month, auto-compound treasury is used to acquire new miner capacity, then corresponding PWDR tokens are minted and can be claimed by auto-compounders.

Auto-compounding is the regenerative force that breathes new life into POWD3R Protocol, by continuously updating its mining infrastructure with the latest, most efficient mining hardware, this way achieving a perpetual Bitcoin mining operation.

An algorithm calculates, based on current mining statistics, a minimum reinvestment of mining revenue needed to effectively offset depreciation (approximately 20%), and defines a percentage of mining revenue (estimated 5-10%) to be rewarded to auto-compounders. This works as a powerful incentive for more holders to choose auto-compounding. It is worth noting that all the



revenue awarded to auto-compounders inherently contributes to renewing the mining infrastructure.

Token holders who opt for auto-compounding will observe an increase in their PWDR token stake following each monthly mining expansion. They retain the flexibility to claim their share of the BTC allocated for expansion at any time, subject to an early withdrawal fee.

Swap and Liquidity

POWD3R Protocol, while not functioning as a full-fledged decentralized exchange (DEX), recognizes the need for seamless and efficient BTC/PWDR token swaps. This functionality is crucial for both onboarding new miners (bridging in BTC to acquire PWDR) and enabling miners to exit their positions (bridging out BTC).

Initially, POWD3R Swap will offer a single BTC/PWDR trading pair. Users wishing to trade other tokens, like ETH or SOL, can utilize existing DEXes within the ecosystem. However, as POWD3R grows in capitalization and volume, additional trading pairs may be added to the platform. Alternatively, POWD3R Swap could integrate with existing DEX contracts, allowing users to swap tokens seamlessly within the POWD3R dApp, similar to how Aave facilitates swaps despite not having native swap functionality. This approach ensures a user-friendly experience while maintaining POWD3R's core focus on tokenized Bitcoin mining.

To ensure robust liquidity for the PWDR/BTC pair and minimize price volatility, POWD3R will implement several strategic measures:

- ❑ **Liquidity Allocation:** A portion of the initial token emission will be allocated to providing liquidity for the PWDR/BTC pair. This establishes a foundation for active trading and price stability from the outset.
- ❑ **Optimized Swap Fees:** As POWD3R is not a high-frequency trading DEX, swap fees can be set slightly higher (e.g., 0.60%) than those on platforms like Uniswap, Sushi Swap, or PancakeSwap (typically 0.25–0.30%). This incentivizes liquidity providers to contribute to the pool, further enhancing its depth and stability.
- ❑ **Liquidity Provider Mining Rewards:** Liquidity providers can also participate in mining operations through their provided PWDR tokens. This dual incentive structure – earning both mining rewards and swap fees – strongly encourages active participation in the liquidity pool.
- ❑ **Pre-Trading Liquidity Provision:** Following the token generation event (TGE), participants can claim their tokens and contribute to liquidity at least 48 hours before trading commences. This pre-funding mechanism boosts the initial liquidity pool, reducing volatility during launch while rewarding early liquidity providers with increased revenue from the heightened trading activity at inception.



Tokenomics

The Issue with Low-Float High-FDV Tokens

Here is a compilation from Binance Research's May 2024 article, "Low Float & High FDV: How Did We Get Here?":

"The prevalence of tokens with high valuations and low initial circulating supply has been a topic of discussion among the crypto community in recent months. This stems from concerns that such a market structure leaves little sustainable upside for traders after the token generation event (TGE)."

"This concern is not unfounded. It has become increasingly common for tokens to launch with a low circulating supply and allocating a significant portion for future release. Under bullish market conditions, these tokens can experience rapid price appreciation due to limited liquidity available for trading at launch. However, it is apparent that this kind of price growth is unsustainable when a wave of token supply hits the market upon unlocking."

"Moreover, attention is being drawn to newly launched tokens whose FDVs are comparable to established layer-1 or DeFi tokens that have stood the test of time and with proven user traction. Overall, market participants are now acknowledging the impact of tokens characterized by low floats and high FDVs."

"Launching a token with a low float and high FDV may help with initial price pumps due to limited token supply. However, the subsequent unlocks can put substantial selling pressure on the token."

"In this regard, token allocation, unlock, and vesting schedules should be carefully considered. While tokenomics is likely more art than science and there is no magic number or methodology, it is clear that recently launched tokens have significantly low float. To mitigate the risks associated with sudden increases in supply, teams and investors can consider token burning mechanisms, aligning vesting schedules with set milestones, and to increase the initial circulating supply during TGE."

"The current market set-up makes it important for investors to be selective and discerning by considering fundamental aspects of a project, such as tokenomics, valuation, and product. Project teams may also need to consider the long-term implications of decisions made relating to tokenomics design."



Capital Efficiency and POWD3R Manifesto

POWD3R is driven by capital efficiency and making bitcoin fair, accessible and within reach to anyone, anywhere. Looking to break free from the detrimental consequences of low-float/high-FDVs, these core principles will guide our operation:

- ❑ 100% of the raised capital will be used to deploy and maintain a bitcoin mining operation and POWD3R Protocol.
- ❑ Over 70% of the token emission is allocated to the community. No more low-float/high-FDV.
- ❑ Team allocation has a very long vesting (5 years). We intend to derive our revenue solely from Bitcoin mining, we intend to never sell our tokens.

Tokenomics

POWD3R Protocol will launch with a Private Sale to fund its initial mining operations and essential structural expenses, such as smart contract audits.

Both Private and Public Sale investors will acquire tokens at the same price, with Private Sale participants receiving a 10% allocation from the Public Sale in recognition of their early support, which involves assuming a higher risk by funding the initial mining operation and contributing to the project's strategic direction, marketing efforts, and overall awareness.

Public Sale investors, on the other hand, will have the advantage of entering at a more mature phase of the project, when the mining operation is live, fully operational, and auditable, providing greater transparency and reduced risk.

The token generation event (TGE) will occur once the dApp is running and smart contracts have been successfully audited. This ensures that the PWDR token launches with immediate utility, mitigating speculative selling pressure and fostering a more stable initial market environment.

Public Sale Token Emission: 1.000.000

Public Sale Allocation:

70% Public Sale

10% Private Sale (12m cliff, 12m vesting)

7% Team Allocation (24m cliff, 36m vesting)

5% Liquidity

4% Advisors (6m vesting)

4% Airdrops and Growth Initiatives



Token Value

Net Asset Value

As a real-world asset (RWA) tokenization project, PWDR tokens possess intrinsic value directly linked to the underlying Bitcoin mining assets they represent. Each token can be assessed using a Net Asset Value (NAV) calculation, reflecting the proportionate share of the mining operation's assets and liabilities attributable to each token.

The NAV calculation includes the current market value of the mining equipment (ASICs), which is known to have a strong positive correlation with the price of Bitcoin. Thus, as Bitcoin's price increases, so does value of POWD3R's mining assets, the NAV of the PWDR tokens and PWDR tokens intrinsic value.

Yield Bearing Asset

POWD3R tokens are not merely a static representation of assets; they are also yield-bearing instruments. PWDR tokens earn the Bitcoin mining revenue generated by the underlying operation. This continuous cash flow provides an additional dimension to the token's intrinsic value, which can be estimated using established financial models like Discounted Cash Flow (DCF) analysis.

This dual valuation approach, considering both net asset value and future cash flows, offers a more comprehensive and robust framework for assessing the intrinsic value of POWD3R tokens, enhancing transparency and providing investors with greater confidence in their investment decisions.

Intrinsic and Extrinsic Value of POWD3R Tokens

While NAV and DCF models assess the intrinsic value of POWD3R tokens (their inherent worth), they also possess significant extrinsic value, influenced by factors like investor sentiment, project roadmap, future potential, and overall market trends.

It's important to note that most crypto projects, lacking any underlying asset or non-inflationary cash flows, have no intrinsic value, relying solely on extrinsic factors, an expectation of future value, thus being highly volatile and susceptible to market sentiment. POWD3R tokens stand apart by boasting **both** strong intrinsic and extrinsic value:

Intrinsic Value:

- ❑ **Ownership of Bitcoin Mining Infrastructure:** POWD3R Tokens are backed by their underlying Bitcoin mining infrastructure (ASICs). This physical asset base has a proven strong correlation with Bitcoin's price.
- ❑ **BTC Cash Flow:** POWD3R's consistent Bitcoin-denominated cash flow allows for a robust discounted cash flow valuation. Bitcoin arguably serves as the most robust benchmark discount rate against which all other assets should be evaluated.



Extrinsic Value:

- ❑ **Unlocking Bitcoin's Potential:** Leveraging smart contracts and cross-chain interoperability to unlock Bitcoin's dormant trillion-dollar value and integrating it with the thriving liquidity of established non-Bitcoin ecosystems, taking advantage of a flight-to-quality towards Bitcoin movement.
- ❑ **Hub for All Things Bitcoin:** POWD3R's vision extends beyond mining, aiming to become a central platform for Bitcoin-related products and services, including future DeFi offerings for Bitcoin holders.
- ❑ **Alignment with Current Market Trends:** POWD3R's focus on real-world asset tokenization and smart contract-enabled Bitcoin Layer 2 solutions aligns perfectly with the prevailing narratives driving the current crypto cycle. Bitcoin L2s are poised for inevitable growth as the world moves towards hyperbitcoinization.

Bitcoin Liquidity Pair

POWD3R Tokens will initially be traded exclusively in a PWDR/BTC liquidity pair, ensuring their value directly tracks the price of BTC, even in the absence of any PWDR trading. This is due to the well-established phenomenon of tokens on decentralized exchanges exhibiting strong correlation with their paired assets.

Transparency Matters

POWD3R's dApp dashboard will provide token holders with comprehensive transparency, showcasing both the intrinsic valuation of PWDR tokens, calculated through Net Asset Value (NAV) and Discounted Cash Flow (DCF) analysis, as well as their real-time market price and extrinsic value. This robust data empowers informed decision-making, allowing users to assess the token's fundamental worth and potential future performance.



Roadmap

POWD3R Protocol aims to be not just a mere participant but a driving force in the Bitcoin Web3 revolution. Our team brings over five years of deep expertise in Web3 and DeFi across all major blockchains have instilled in us a deep appreciation for **composability**, a concept beautifully explained by Chainlink, the industry leader in oracle solutions:

“A multitude of DeFi applications or “money LEGOs” can be connected in tandem to create previously unimaginable use cases and financial products. (...) It also fosters a growing network effect where every new DeFi application makes every other pre-existing DeFi application even more powerful and useful.” –Chainlink

The value proposition of PWDR tokens extends far beyond the underlying mining operation they represent. POWD3R Protocol envisions a suite of DeFi applications designed to maximize the utility and potential of PWDR:

- ❑ **Bridges to Other Chains:** POWD3R recognizes the importance of a multichain ecosystem. There are strong, established blockchains with thriving ecosystems, such as Arbitrum, Polygon, Solana. Bridges to these chains will not only enhance composability but also attract capital from large established ecosystems into the Bitcoin DeFi space.
- ❑ **Liquid Staking Derivatives (LSDs):** allowing miners to deposit PWDR tokens and receive a liquid staking token (e.g., stPWDR), POWD3R Protocol will enable participation in other DeFi protocols, such as collateralizing loans, while still earning mining rewards. This enhances token utility and value.
- ❑ **Lending/Borrowing:** Such as on other blockchains, this could be one of the strongest utilities in Bitcoin Web3 ecosystem, as it will allow the massive value of Bitcoin to be used in lending and borrowing operations, whether it is to leverage debt and increase Bitcoin exposure, borrow Bitcoin during bear markets, or to avoid spending Bitcoin by collateralizing it and borrowing a weaker currency for everyday spending.
- ❑ **Bitcoin Mining Derivatives:** hashrate and hashprice derivatives have become a dependable resource for Bitcoin miners. POWD3R can establish itself as a Web3 Bitcoin mining hub by trading hashrate and hashprice derivatives, as well as tokenizing hashrate for other mining operations.
- ❑ **Real Estate and Bitcoin Mining Hybrid Products:** Recognizing a relationship between Bitcoin mining and associated real estate, POWD3R may explore hybrid tokens that encompass the full spectrum of assets, including land, power plants, and utility infrastructure. This could open up unique investment opportunities and further diversify the platform's offerings.
- ❑ **Bitcoin Mining on Layer 1:** While Bitcoin's Layer 1 is primarily used for transactions, POWD3R may explore the possibility of tokenizing mining operations directly on the Bitcoin main chain (L1) using NFTs with embedded mining parameters. This could appeal to users who prefer to keep their assets entirely on the Bitcoin blockchain.



Risk Factors

Disclaimer:

This Risk Factors section (the “Risk Factors”) outlines the potential risks associated with POWD3R Protocol, a project that involves tokenizing a Bitcoin mining operation. Any statements and representations made by us or on our behalf, and any use of the tokens issued by us (the “POWD3R Tokens” or “Tokens”) or of any platform, service, or protocol upon which our Tokens operate (the “Project”), regardless of whether such Project is owned, operated, developed, or otherwise controlled by us, shall be subject to this Risk Factors. Please read this Risk Factors carefully before using or interacting with the Project or the Tokens. In addition, the Tokens and Project are subject to additional terms and conditions that may be amended by us from time to time.

Legal Notice:

This Whitepaper is for informational purposes only and should not be considered as financial, legal, tax, or investment advice. It is not an offer to sell or a solicitation of an offer to buy any securities or other financial instruments. This Risk Factors section is not exhaustive and may not cover all potential risks associated with POWD3R. Any decision to interact with POWD3R Protocol should be based on your own thorough independent research and assessment of the risks involved. You should consult with qualified and certified professionals for advice tailored to your specific circumstances.

Cryptocurrency Mining Risks

1. **Cryptocurrency Mining Industry Volatility:** The cryptocurrency industry is nascent and rapidly evolving, subject to substantial price volatility, regulatory changes, and technological advancements. These factors can significantly impact mining profitability and the overall industry landscape, posing risks to POWD3R's financial performance.
2. **Operational and Infrastructure Risks:** POWD3R's success hinges on the efficient and uninterrupted operation of its Bitcoin mining infrastructure. Operational risks include equipment malfunctions, energy supply disruptions, unforeseen technical challenges, and natural disasters, which could lead to reduced mining output and financial losses.
3. **Hashrate Competition and Technological Obsolescence:** The Bitcoin mining industry is highly competitive, with the global network hashrate consistently rising. POWD3R must continuously invest in state-of-the-art mining equipment and optimize operations to maintain a competitive hashrate. Failure to do so could result in diminishing mining rewards and a decline in the token's value. Additionally, rapid technological advancements in mining hardware may render existing equipment obsolete, necessitating further capital expenditures to remain competitive.
4. **Bitcoin Halving Events:** The Bitcoin halving, a pre-programmed event occurring approximately every four years, reduces the block reward for miners. This can decrease mining profitability and consequently impact the value of POWD3R Tokens.
5. **Environmental and Regulatory Concerns:** Bitcoin mining's energy-intensive nature raises environmental concerns, leading to potential regulatory scrutiny and restrictions. Changes in energy policies, increased electricity costs, or restrictions on mining operations could adversely affect POWD3R's profitability and operational viability.



Regulatory Risks

1. **Regulatory and Legal Risks:** The regulatory landscape for cryptocurrencies is evolving and varies across jurisdictions. Changes in regulations, legal challenges, or government actions could negatively impact POWD3R's operations, token distribution, or trading activities. Additionally, the classification of POWD3R Tokens as securities or other financial instruments could trigger additional regulatory requirements and restrictions.
2. **Regulatory Uncertainty:** The legal status of POWD3R Tokens may vary across jurisdictions and is subject to change. Regulatory actions could impose restrictions or even prohibit the use or trading of tokens in certain regions, impacting their utility and value.

Web3 and Emerging Technology Risks

1. **Smart Contract Vulnerabilities:** POWD3R's platform relies on smart contracts for various functionalities. However, smart contracts are susceptible to coding errors, vulnerabilities, and hacking attempts, which could lead to financial losses, data breaches, or operational disruptions.
2. **BVM (Bitcoin Virtual Machine) Risks:** BVM is a relatively new technology that extends Bitcoin's capabilities. Its use introduces risks related to potential vulnerabilities, bugs, and unforeseen compatibility issues with existing Bitcoin infrastructure, which could affect POWD3R's functionality and security.
3. **Optimistic Rollup Risks:** While optimistic rollups offer scalability benefits, they carry inherent risks. These include potential vulnerabilities in their implementation, reliance on a challenge period for fraud detection, and the possibility of malicious actors exploiting the system during this period. Any issues with optimistic rollups could lead to inefficiencies or security breaches, adversely affecting token holders.
4. **Data Availability Risks:** POWD3R utilizes Avail's data availability layer to ensure transaction data is accessible and verifiable. Any disruption or compromise of this layer, such as technical failures, attacks on Avail nodes, or governance issues, could undermine POWD3R's transparency and security. This could lead to difficulties verifying transactions, delays in processing, and potentially the loss of user confidence in the platform.
5. **Bridge Risks:** POWD3R relies on bridges, including the Bitcoin Decentralized Bridge, to facilitate the transfer of assets between different blockchains. These bridges are susceptible to vulnerabilities and attacks, such as smart contract bugs, hacking attempts, or collusion among validators. A successful attack on a bridge could result in the loss of funds or a disruption of services, causing significant financial harm to POWD3R and its users.

Token-Specific Risks

1. **Bitcoin Price Volatility:** POWD3R Tokens are intrinsically linked to Bitcoin's value. The inherent volatility of Bitcoin's price can lead to significant fluctuations in the token's market value, potentially resulting in financial losses for token holders.
2. **Token Value Fluctuation and Liquidity:** The value of POWD3R Tokens is subject to market forces and can experience significant volatility. There is no guarantee that the tokens will maintain their value or appreciate over time. Additionally, initial liquidity may be limited, making it difficult for holders to buy or sell tokens at desired prices.
3. **Token Functionality and Utility Risks:** The functionality and utility of POWD3R Tokens, including their use for accessing mining rewards and participating in governance, may not develop as anticipated or may be subject to technical limitations. This could affect the token's demand and overall value.



Additional Risks

1. **Adoption and Interoperability Risks:** POWD3R's success depends on achieving widespread adoption and seamless interoperability with other blockchain networks. Technical challenges, user adoption barriers, and compatibility issues could hinder these efforts, impacting the project's growth and overall success.
2. **Market and Competition Risks:** The cryptocurrency market is highly dynamic and competitive. Changes in market conditions, technological advancements, and the emergence of new competitors could adversely affect POWD3R's market position and financial performance.

This Risk Factors section is not exhaustive and may not cover all potential risks associated with POWD3R. Any decision to interact with POWD3R Protocol should be based on your own thorough independent research and assessment of the risks involved. You should consult with qualified and certified professionals for advice tailored to your specific circumstances.



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