RIGVIEWER

MINING INTELLIGENCE, SIMPLIFIED.

PRODUCT & TECHNICAL

WHITE PAPER

A unified mobile platform for monitoring, analytics, pool configuration and supported miner control.

October 2026 | Product overview

iOS + Android | rigviewer.com

Mining intelligence, simplified.

RigViewer at a glance

Product and technical white paper. Product state described as of October 2026.

> **PURPOSE**
> This document explains what RigViewer is, how its major subsystems work, the data it presents, the controls it can expose, and the boundaries imposed by miner hardware, firmware, pool infrastructure and network access.

PLATFORMS **iOS + Android**	ENTRY PLAN **Free: up to 3 miners**	PREMIUM **Unlimited miners**
PRIMARY ROLE **Monitoring + supported control**	POOL WORKFLOW **Browse · Save · Send**	FOCUS **Home & small-fleet mining**

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Official links: rigviewer.com · Google Play · App Store

01 / EXECUTIVE SUMMARY

One application for the operational side of a mining rig

RigViewer consolidates miner telemetry, fleet status, pool workflows, analytics and supported controls into one mobile interface.

Home mining often requires a patchwork of device web interfaces, pool dashboards, browser tabs and firmware-specific tools. That fragmentation becomes more pronounced when a rig contains hardware from different manufacturers or firmware families. RigViewer is designed to reduce that friction by translating heterogeneous miner data into a consistent operational view.

THE PROBLEM	THE RIGVIEWER APPROACH
Each miner family exposes different fields, endpoints and control semantics. The user must repeatedly switch context to answer basic questions: Is every miner online? Which unit is hot? Which pool is active? Are shares being accepted? Did best difficulty improve?	Normalize what can be normalized, preserve device-specific capabilities where needed, and surface the information that matters for day-to-day operation without pretending that every miner supports the same controls.

Design goals

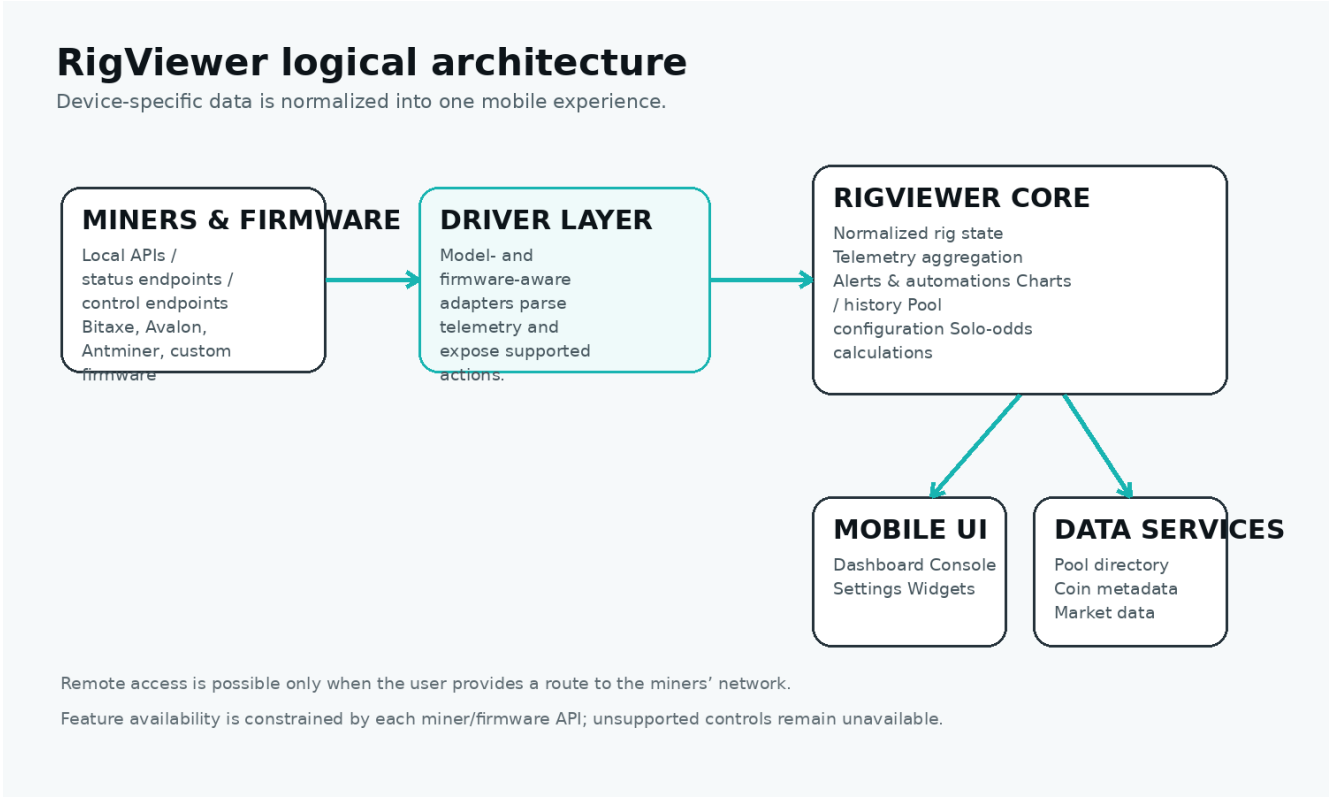
- Fast situational awareness: rig totals and individual miner health should be visible in seconds.
- Hardware diversity: support multiple miner and firmware families through driver-specific integrations.
- Action close to context: when an API supports it, configuration and control should sit beside monitoring.
- Mining-specific intelligence: best/session difficulty, live shares and solo probability should be first-class concepts.
- No custodial role: RigViewer monitors and configures mining infrastructure; it does not mine on the phone and does not need wallet private keys to perform its monitoring role.
- Clear boundaries: controls, data fields and update frequency depend on the hardware, firmware, network and third-party data sources.

> **CORE PRODUCT PRINCIPLE**
>
> RigViewer is not a replacement for the miner firmware. It is an operational layer above compatible miner APIs, designed to make mixed hardware easier to observe and manage.

02 / PLATFORM ARCHITECTURE

Normalize the rig, preserve the device

RigViewer treats miner firmware diversity as an integration problem rather than forcing every device into an identical capability set.



Logical architecture. The exact endpoints and available actions depend on each supported device or firmware family.

The architecture can be understood as four layers:

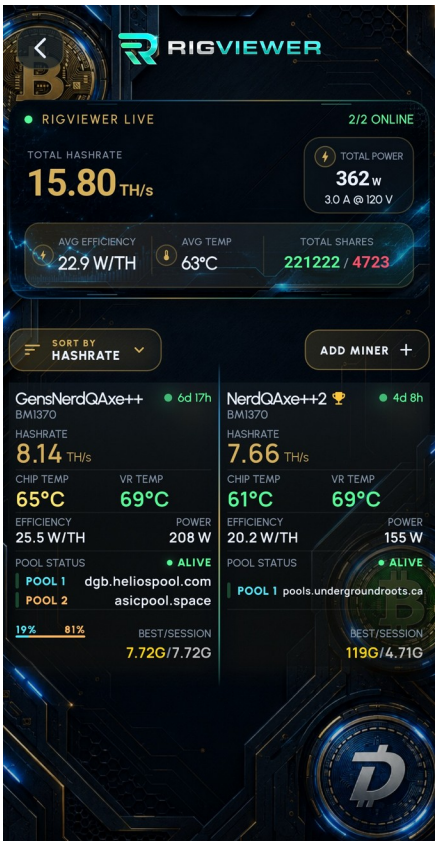
- Device layer — miners and firmware expose status, configuration and control endpoints over the network.
- Driver layer — model-aware adapters parse each API, normalize comparable telemetry and expose only supported actions.
- RigViewer core — maintains miner state, aggregates rig totals, evaluates alert/automation conditions, records chartable observations, manages pool configuration and performs probability calculations.
- Presentation and data services — dashboard, console, charts, settings and widgets are combined with pool-directory and coin/market metadata.

> **WHY THIS MATTERS**
>
> A normalized data model makes cross-vendor comparison possible, while the capability layer prevents the app from presenting controls that a given miner cannot safely or reliably execute.

03 / MONITORING

Dashboard and miner health

The dashboard is the primary operational view: rig totals first, then the individual miners that explain those totals.



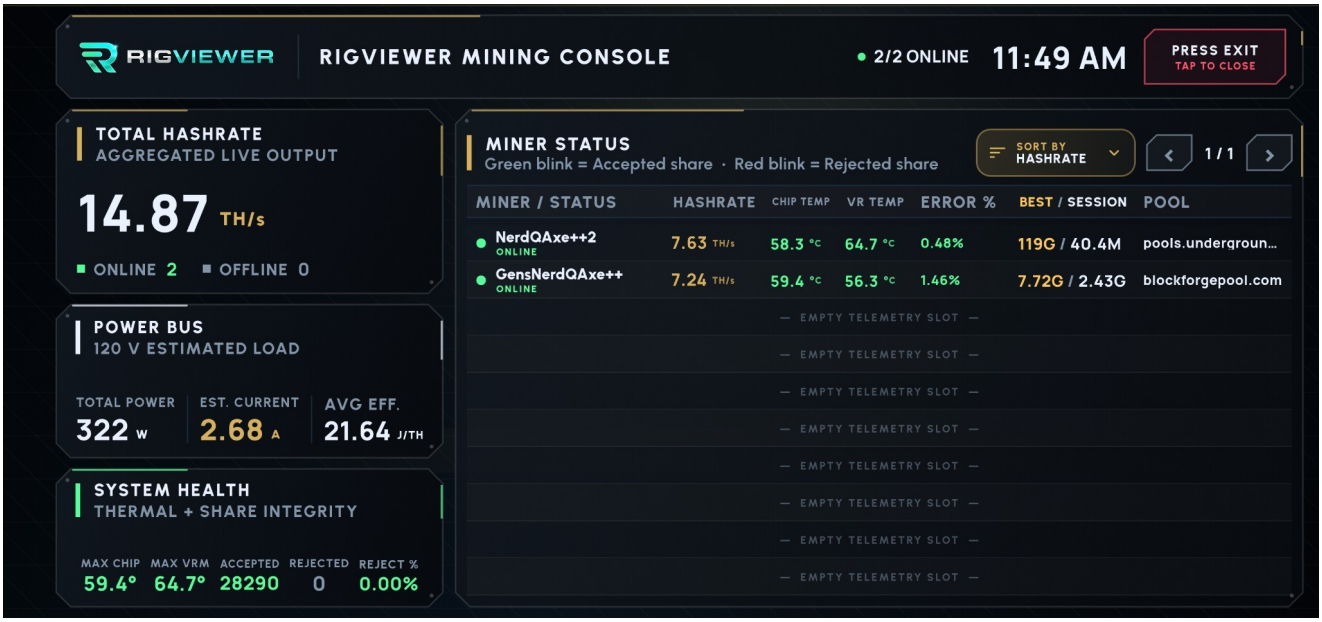
Actual RigViewer dashboard screen.

Metric	Meaning	Availability
Hashrate	Current mining throughput at miner and rig level.	Where exposed by the miner API
Power	Estimated or reported electrical power.	Model/firmware dependent
Efficiency	Power divided by hashrate, commonly shown as W/TH.	When power and hashrate are available
Chip / VR temperature	Thermal readings used to identify hot devices or regulator stress.	Sensor/API dependent
Accepted / rejected shares	Share-health signals from compatible miners.	Firmware dependent
Best / session difficulty	Mining-work quality indicators used by solo miners.	When exposed or derivable
Pool status	Active pool endpoint and state.	When pool data is readable
Uptime / errors	Availability and operational health.	Model/firmware dependent

04 / LIVE OPERATIONS

Mining Console & Live Monitoring View

A dedicated landscape console turns a phone or tablet into a persistent rig monitor.



Actual full-screen Live Monitoring View.

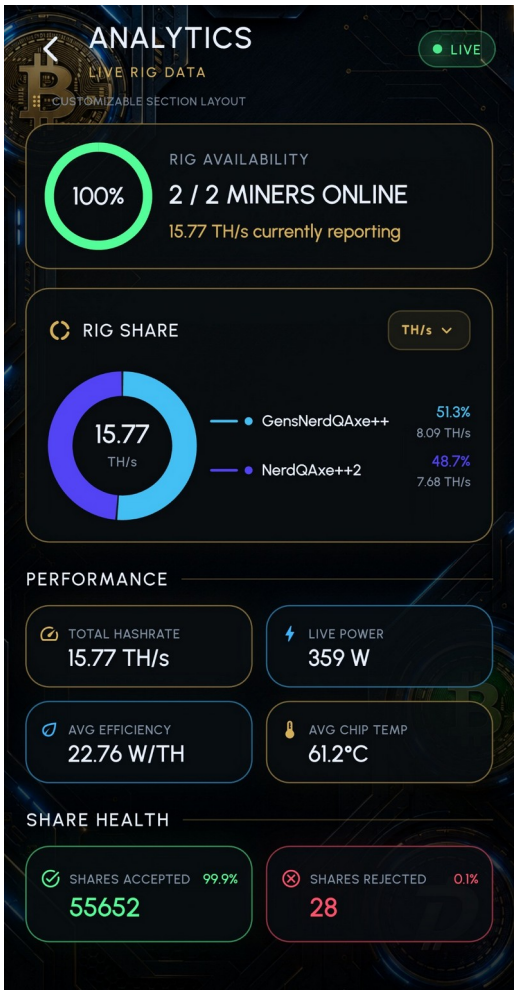
- Rig totals summarize total hashrate, online count, power consumption and average efficiency.
- Per-miner rows expose operational values such as hashrate, temperatures, errors, best difficulty and session difficulty.
- Live share activity makes accepted work visible immediately; accepted and rejected events are visually differentiated.
- Sort controls allow the operator to prioritize metrics such as name, hashrate, best difficulty, session difficulty, temperatures and error rate.
- The landscape view is intended for continuous display, while normal app navigation remains optimized for portrait use.

> **OPERATIONAL USE**
>
> The console is designed for a desk, workshop or mining-room display where the operator wants one glanceable screen instead of repeatedly opening individual miner interfaces.

05 / ANALYTICS

From current status to operating patterns

Live values answer “what is happening now”; analytics and charts help answer “how has the rig been behaving?”



Analytics view

Charts view

Analytics

- Rig availability and online miner count.
- Hashrate contribution by miner.
- Rig-level performance totals such as hashrate, power, efficiency and average temperature.
- Accepted/rejected share health where supported.

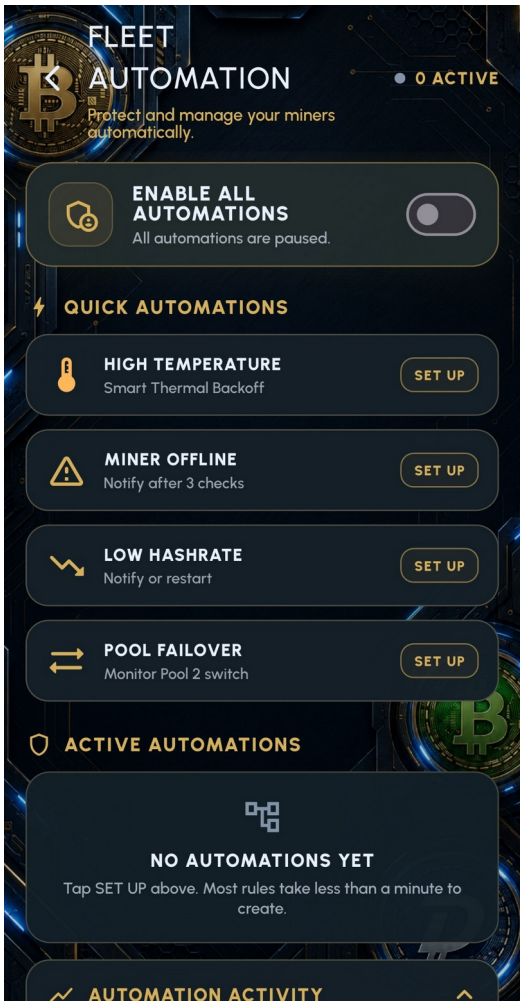
Charts

- Selectable time windows and data curves for rig or miner-level performance.
- Comparable metrics can include hashrate, power, efficiency and thermal readings.
- Multi-miner selection allows operators to separate a single-device problem from a rig-wide trend.
- Charts are a diagnostic aid; source precision and sampling frequency remain constrained by miner APIs and platform execution limits.

06 / EVENT AWARENESS

Alerts and automation

Mining operations are more useful when the app can surface exceptions instead of requiring constant manual checking.



Actual Fleet Automation screen.

Alert categories

- Miner offline / recovery conditions.
- High-temperature conditions.
- Low-hashrate conditions.
- Block Found notifications when a compatible data source reports a block event.
- New Best Diff notifications when a miner reports a new best-difficulty result.
- Pool failover or other supported operational rules.

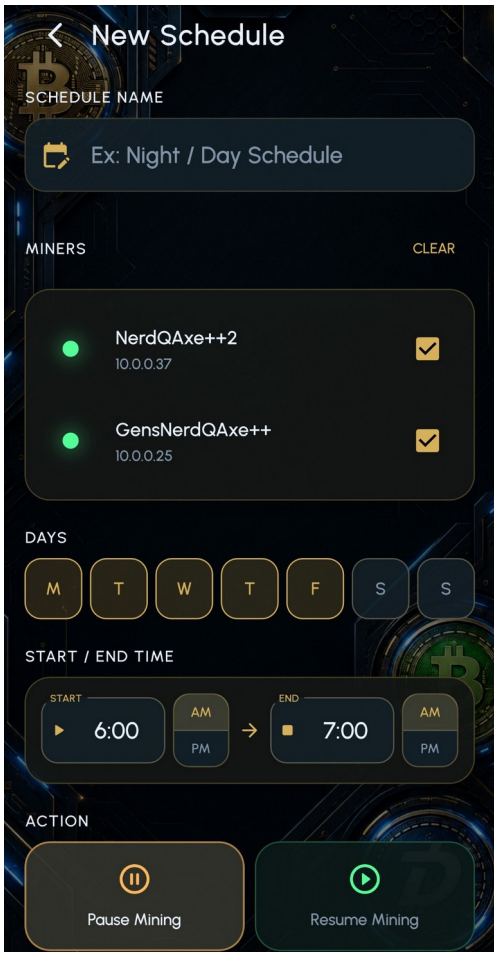
> **AUTOMATION SCOPE**
>
> Automations are bounded by the actions the target miner or firmware exposes. An automation can only perform a control that RigViewer can validate and send to that device family.

Notification and automation behavior can be affected by mobile operating-system background restrictions, network reachability and miner response time. Event-driven features therefore complement — rather than replace — direct miner safeguards such as firmware thermal protection.

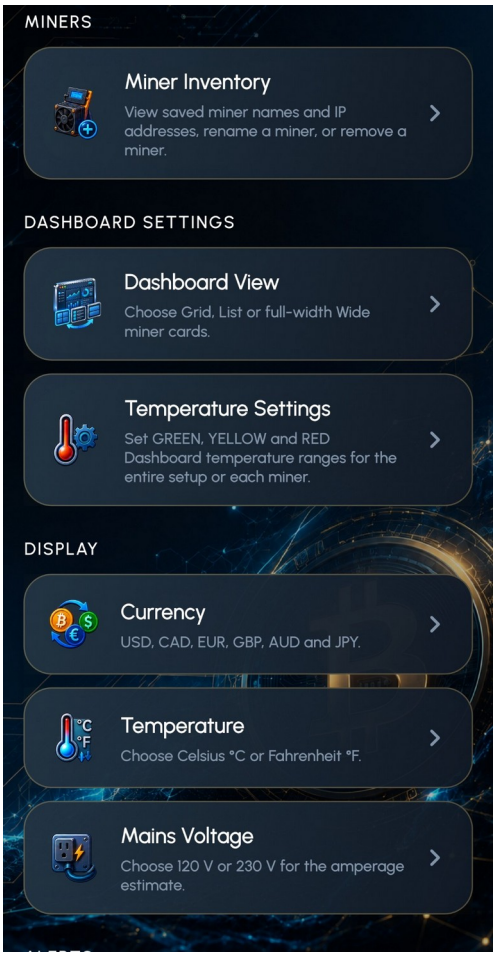
07 / CONTROL

Tuning, fan control and scheduling

RigViewer places supported actions beside the telemetry that motivates them, while preserving model-specific behavior.



Scheduling interface



Settings / miner inventory

Examples of supported control classes

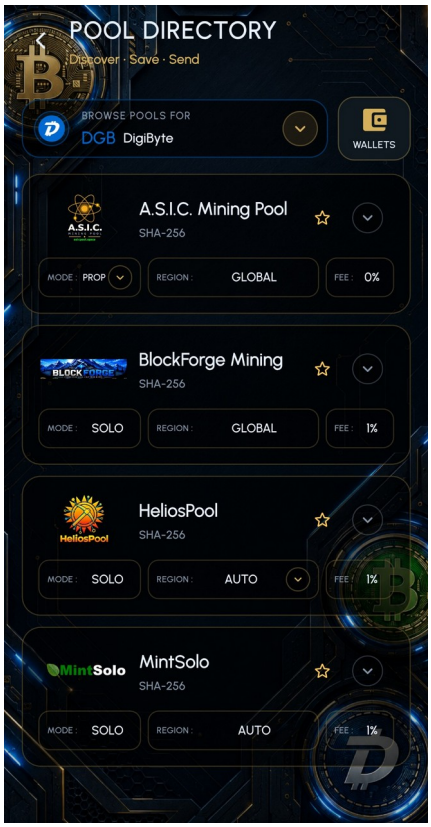
- Restart or resume/pause mining where a miner API exposes the action.
- Pool configuration: primary/fallback endpoints and credentials appropriate to the selected pool workflow.
- Fan mode or manual fan targets on supported firmware.
- Frequency/voltage or tuning settings where the firmware provides a supported interface.
- Named operating modes on supported platforms — for example ECO / STANDARD / SUPER on compatible Avalon configurations.
- Scheduled actions across selected miners and selected days/times.

> **SAFETY BOUNDARY**
> RigViewer can make configuration easier to reach; it does not change the electrical or thermal limits of the hardware. Tuning remains the operator's responsibility and must respect the miner, power supply, wiring and cooling environment.

08 / POOL WORKFLOW

Pool Directory

A preloaded pool directory reduces the repeated work of finding endpoints, ports, regions and supported coins.



Actual Pool Directory screen.

- Browse pools available in the directory and filter by supported coin.
- View connection characteristics such as mining mode, region and published fee information when available.
- Save pool configurations to Favorites for quicker reuse.
- Send a selected pool configuration directly to compatible miners instead of manually retyping fields in the miner web interface.
- Use wallet-address selection from My Wallets where the pool/coin workflow requires a payout address.
- Preserve device-specific validation so the final configuration matches the miner family being targeted.

Current pool partners shown by RigViewer

A.S.I.C. Mining Pool

BlockForge Mining

HeliosPool

MintSolo

SoloHash

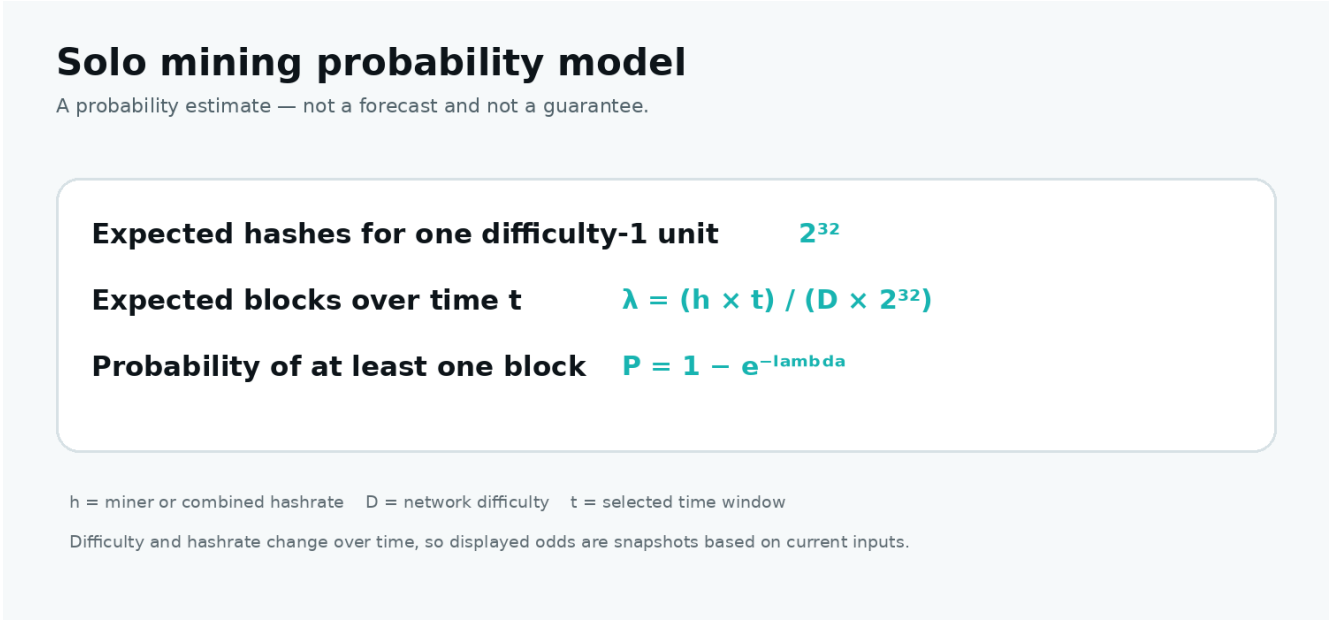
DIRECTORY ROLE

Directory inclusion is an integration convenience, not a guarantee of pool availability, profitability or block discovery. Pool endpoints, fees, policies and supported coins can change independently of the app.

09 / MINING INTELLIGENCE

Solo Odds

RigViewer converts hashrate and network difficulty into an understandable probability estimate for solo mining.



Conceptual probability model used to express solo-mining odds.

RigViewer can present two related perspectives:

- Miner odds — the estimated probability based on the hashrate of one miner.
- Coin / rig odds — the estimated probability based on the combined hashrate of the user's miners currently assigned to the same coin.

The usual Poisson model treats valid block discoveries as rare independent events over a selected time window. With hashrate h, network difficulty D and time t, the expected number of blocks is λ = (h × t) / (D × 2^32), and the probability of at least one block is P = 1 − exp(−λ). The app may express this probability as percentages or "1 in X" intervals for easier interpretation.

> **IMPORTANT**
>
> Solo Odds are mathematical estimates from current inputs. Difficulty, hashrate and network conditions change. A displayed probability never guarantees a block and does not imply expected profit.

10 / COIN CONTEXT

Market, coin data and My Wallets

Operational decisions often depend on the network being mined, not only on the miner itself.

Actual Market Overview screen.

Market and network context

- Coin price and 24-hour movement when a supported market-data source is available.
- Network difficulty for supported mineable assets.
- Block reward/value context where the coin rules and current network state can be resolved.
- Coin-aware data reused by features such as Pool Directory and Solo Odds.

My Wallets

My Wallets is an address-management feature intended to reduce repetitive entry during pool configuration. Saved entries are filtered by coin where appropriate. RigViewer is not a custodial wallet: the feature is for public payout addresses and does not require the user to provide seed phrases or private keys. The app UI states that saved wallet addresses are stored on the device.

> **DATA-SOURCE NOTE**
>
> Market prices, network statistics and block-value calculations can originate from third-party or network data. They can be delayed, unavailable or revised and should be treated as operational context rather than financial advice.

11 / EVERYDAY USE

Widgets, personalization and community features

RigViewer extends key information outside the main dashboard and gives the operator control over how the rig is presented.

Widgets

- Home-screen monitoring can surface selected miner readings without opening the full app.
- Widget content can be limited to the miners and metrics the user considers most useful.
- The iOS Monitor widget requires iOS 17 or later; platform capabilities and update cadence differ between iOS and Android.

Personalization

- User-defined miner names improve readability across mixed hardware.
- A rig name can identify the installation in Live Monitoring and related views.
- Display preferences include currency, temperature units and other presentation settings.
- Dashboard layout options allow compact/list-style or wider cards depending on device and preference.

Community features

Where enabled, RigViewer can separate a public community name from the private miner name used on the local dashboard. Public identity is intended for community/leaderboard presentation without exposing the operator’s local naming scheme. Community features are optional and may evolve independently from the core monitoring workflow.

12 / COMPATIBILITY

Miners, firmware and capability discovery

Compatibility is defined by what a model and firmware expose — not merely by the brand printed on the device.

Supported families presented by RigViewer

Bitaxe / AxeOS	**FutureBit**
NerdQAxe++	**Lucky Miner**
Octaxe	**NMMiner**
Antminer	**Bitdsk**
Canaan / Avalon	**Hammer Miner**
Braiins OS	**GekkoScience KBox**
VNISH	**ZyberOS and additional compatible firmware variants**
LuxOS	

Capability model

- Read capabilities: telemetry such as hashrate, temperatures, power, uptime, pool state and share data.
- Control capabilities: actions such as restart, pool update, fan control, tuning or work-mode selection.
- Event capabilities: values required to detect state changes, best difficulty, share activity or block events.
- Configuration semantics: field names, accepted ranges and command syntax vary by firmware and are handled by driver-specific logic.

> **COMPATIBILITY RULE**
>
> A supported miner does not imply that every RigViewer feature is supported on that miner. The app should expose the intersection between RigViewer features and the capabilities reliably available through that device's API.

13 / CONNECTIVITY & PRIVACY

Local-first operational access

RigViewer is designed to communicate with miners the user is authorized to manage, typically on the local network.

Network model

- Local use: the phone or tablet is connected to the miners' network and communicates with compatible device APIs.
- Remote use: remote access requires a user-configured route to that network. RigViewer does not make an unreachable private miner reachable by itself.
- Pool and market features may require Internet access to obtain public directory or network data.
- Controls are sent only through interfaces available on the target miner/firmware.

Privacy boundaries

- RigViewer does not mine cryptocurrency on the phone.
- Monitoring and pool configuration do not require custody of cryptocurrency funds.
- My Wallets is intended for public payout addresses; seed phrases and private keys are not required for the described workflow.
- Operators should expose miner management interfaces only through trusted network designs and should avoid forwarding unauthenticated management endpoints directly to the public Internet.
- Use monitoring and control features only on hardware the operator is authorized to manage.

> **THREAT MODEL**
>
> The principal operational risks are not unique to RigViewer: weak miner credentials, exposed management ports, unsafe remote-access configuration, untrusted firmware and overly aggressive tuning. RigViewer should be used as one layer in a secure network design, not as a substitute for network security.

14 / BUSINESS MODEL

Free and Premium

The current product model keeps the feature set consistent and uses miner count as the primary plan boundary.

Capability	RigViewer Free	RigViewer Premium
Miner limit	Up to 3 miners	Unlimited miners
Core features	Monitoring, alerts, TuneLogic, Solo Odds and other current app features	Same feature family; removes the miner-count limit

Why the model is simple

A small home miner can use the full workflow without subscribing, while operators with larger fleets pay for scale rather than unlocking a separate set of operational tools. Plan names, prices and purchase terms are shown in the app and can vary by platform or region.

> **STORE MANAGEMENT**
>
> Subscriptions and purchases are managed through the account and store used for the purchase. Platform terms govern billing, renewal and cancellation.

15 / WORKFLOWS

Representative operating scenarios

The value of RigViewer is most visible when several features are used as one workflow rather than as isolated screens.

MORNING RIG CHECK

Open Dashboard → confirm online count and total hashrate → inspect temperature/efficiency outliers → open Charts only if a device looks abnormal.

POOL CHANGE

Open Pool Directory → select coin and pool → choose region/mode if available → select saved wallet address → send configuration to compatible miner → verify pool status on Dashboard.

SOLO SESSION

Assign miners to the desired solo pool → confirm accepted shares → review miner and combined Solo Odds → watch Best / Session difficulty in Mining Console.

THERMAL RESPONSE

High-temperature alert triggers → open affected miner → inspect chip/VR temperature and fan state → apply supported fan/tuning change or pause the miner → verify recovery.

SCHEDULED OPERATION

Create a schedule → select miners → choose days and times → choose pause/resume or supported action → monitor execution and resulting miner state.

DEDICATED DISPLAY

Rotate to Live Monitoring View → keep rig totals, individual miner readings and live shares visible on a fixed screen in the mining area.

16 / PRODUCT BOUNDARIES

What RigViewer does — and what it does not do

Clear constraints are part of a reliable operational product.

- RigViewer does not increase the mathematical probability of a block beyond the hashrate actually contributed by the miner(s). Solo Odds only describe that probability.
- RigViewer does not guarantee miner uptime, pool uptime, accepted shares, block discovery or mining profitability.
- RigViewer cannot expose data a miner or firmware does not provide, and it cannot safely perform controls that the target API does not support.
- Pool listings and partner information can become outdated when third parties change endpoints, regions, fees, coins or policies.
- Market prices and network statistics can be delayed or temporarily unavailable.
- Mobile background execution limits can affect polling and notification timing.
- Tuning can affect stability, efficiency, temperature, power-supply loading and hardware longevity; operators remain responsible for their configuration choices.
- Remote management should use a secure network path rather than exposing miner administration services directly to the public Internet.

> **RESPONSIBLE OPERATION**
>
> The app is designed to make miner operation easier to understand and manage. It does not remove the need for electrical safety, adequate cooling, secure networking, equipment maintenance or independent verification of pool and market information.

17 / PRODUCT DIRECTION

A common operating layer for heterogeneous mining hardware

RigViewer's long-term value comes from compatibility breadth and a consistent operator experience across devices that were never designed to share one interface.

The platform is structured so that new miner families, firmware variants, pool integrations and coin/network data sources can be added without redesigning the entire user experience. The normalized rig model lets the user keep the same mental model — health, work, pool, efficiency, events and controls — even as the underlying hardware changes.

Development priorities

- Expand reliable miner and firmware coverage while preserving capability-aware controls.
- Increase parity between iOS and Android where platform APIs permit it.
- Broaden pool-directory coverage and simplify one-tap configuration workflows.
- Improve historical visibility, alert precision and large-rig usability.
- Continue refining Solo Odds and coin/network support as additional SHA-256 networks are integrated.
- Maintain a professional, miner-focused interface without turning the app into a custodial wallet, mining pool or cloud-mining service.

> **POSITIONING**
>
> RigViewer is an operational intelligence and control application for miners: one place to see the rig, understand the work, configure compatible pools and act on supported devices.

MINING INTELLIGENCE, SIMPLIFIED.

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APPENDIX A

Feature matrix

A compact reference for the major product areas described in this paper.

Area	Role	Availability
Dashboard	Rig totals, miner cards, pool state, key health metrics	Core
Miner detail	Per-device telemetry and supported actions	Core
Mining Console	Dense live status, Best/Session Diff, sorting, live shares	Core
Live Monitoring View	Full-screen landscape rig monitor	Core
Analytics	Rig availability, contribution and performance summaries	Core
Charts	Historical performance curves and selectable metrics	Core
Alerts	Offline, thermal, low-hashrate, Block Found, New Best Diff	Capability/platform dependent
Automation	Condition-based supported actions	Capability dependent
Scheduling	Timed supported actions across selected miners	Capability dependent
Pool Directory	Browse pools, coins, modes, regions and connection settings	Core + Internet data
Favorite Pools	Saved reusable pool configurations	Core
Pool send	Apply selected pool configuration to compatible miners	Capability dependent
Solo Odds	Miner and combined same-coin probability estimates	Core + network data
Market / Coins	Price, difficulty and block-value context	Internet data
My Wallets	On-device payout-address organization	Core
Home widgets	Selected rig/miner readings outside the app	Platform dependent
Miner rename / Rig name	Local presentation and organization	Core
Community / public name	Optional public identity for community surfaces	Where enabled
Free plan	Full current feature family up to 3 miners	Core
Premium	Unlimited miner count	Purchase required

APPENDIX B

Terminology

Selected terms used throughout the RigViewer interface and this document.

Hashrate — The rate at which a miner performs hashing work, typically expressed in GH/s, TH/s or higher units.

Difficulty — A target measure that determines how difficult it is for submitted hashing work to satisfy a threshold.

Best Difficulty — The highest-difficulty share/work result observed for a miner or relevant tracking period.

Session Difficulty — The best-difficulty result within the current session or session-specific tracking period.

Accepted Share — Pool-accepted proof of submitted mining work. It is not necessarily a block.

Rejected Share — Submitted work that the pool does not accept, for reasons such as staleness, invalidity or connection issues.

Efficiency — Power consumption divided by mining throughput, commonly expressed as watts per terahash for SHA-256 miners.

Solo Mining — Mining where a qualifying block is attributed according to the rules of the selected solo or hybrid-solo pool rather than conventional proportional pool payouts.

Fallback Pool — A secondary configured pool used when the primary pool is unavailable, subject to miner/firmware behavior.

Driver — RigViewer integration logic that translates a miner or firmware API into normalized telemetry and supported controls.

API — The network interface exposed by a miner, firmware or external data source and used by RigViewer to read or send supported information.

Rig — The collection of miners the user has added to RigViewer for monitoring and management.

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