



STARMINER

WHITEPAPER

Build Your Fleet. Conquer the System. Mine the Unknown.

Browser-based onchain space mining strategy • Robinhood Chain

30 FICTIONAL WORLDS	24 SHIP HULLS	3 ACTIVE SHIPS	99% MAX SUCCESS ODDS
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DOCUMENT STATUS

Version 0.1 — prepared from the current public STARMINER build. The product UI and game design are available, but the public build currently states that the game contract and token configuration are not yet live. Final contract addresses, token address, treasury address and randomness configuration should be published before production launch.

starminerr.vercel.app

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Whitepaper principle

Game first. Crypto second. STARMINER is designed to remain understandable as a game even before a player thinks about wallets, contracts or token mechanics.

1. Executive Summary

STARMINER is a browser-based onchain space-mining strategy game built around a simple progression fantasy: **start with a small ship, build a three-ship fleet, and reach worlds that weaker fleets cannot touch.**

The game contains 30 fictional planets organized into six difficulty zones. Every ship contributes Fleet Power. A player's active fleet can contain up to three ships, and the combined Fleet Power determines which planets can be attempted and how likely each mining mission is to succeed.

Every planet has a minimum power threshold, a recommended power level, a mission duration and a reward range. Mining is probabilistic: meeting the minimum unlocks the mission but does not guarantee success. Reaching recommended power is designed around an 80% success rate, while additional power increases the odds toward a hard 99% ceiling.

The economic design uses a finite Reward Vault rather than presenting rewards as unlimited. Ship purchases and refits are designed to route 60% of spend back into the vault, while the player-to-player ship market routes a 2.5% fee into the same reward pool. Mission rewards are paid from the available vault balance.

6 DIFFICULTY ZONES	6 SHIP CLASSES	60% PURCHASE / REFIT → VAULT	2.5% P2P MARKET → VAULT
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Important

STARMINER is not a guaranteed-income product. Ships are gameplay assets; mission rewards depend on success probability, planet configuration and the available Reward Vault.

2. Product Vision & Design Principles

2.1 The player fantasy

STARMINER is built around visible progression. A new commander begins with low-power equipment and can only access the shallow end of the system. As the fleet grows, new regions become reachable, mission durations increase, rewards become larger, and the player moves from safe early-world mining to high-risk endgame expeditions.

2.2 Four design principles

- Readable progression — Fleet Power is the single number that explains what the player can reach.
- Risk is always visible — success odds are shown before launch, and mining never reaches a guaranteed 100%.
- Game assets have utility — ships are purchased to change actual mission access and probabilities, not only for cosmetic ownership.
- Finite rewards — mining payouts come from a transparent Reward Vault rather than an implied infinite emission source.

2.3 Core loop

BUILD → EXPLORE → MINE → GROW

Purchase ships and assemble a fleet → unlock increasingly dangerous planets → deploy the fleet and attempt extraction → use the resulting progression and rewards to reach stronger ships and deeper worlds.

3. Core Gameplay Loop

3.1 Fleet composition

A commander can equip a maximum of three active ships. Their individual Fleet Power values are added together into Total Fleet Power. The active fleet is stored under the connected wallet in the game contract design.

The Fleet Builder categorizes worlds as Strong, Risky or Locked. In the current design, Strong means an estimated success chance of at least 80%; Risky is below 80%; Locked means the player is under a planet's minimum power or has not satisfied a progression gate.

3.2 Fleet traits

The current fleet design also supports class traits. A trait applies once per class represented in the active fleet, allowing mixed-class fleets to stack different effects. Exact trait values are not yet exposed in the public build and should remain configurable rather than hardcoded into the whitepaper.

3.3 Safe vs. risky mining

The strategic choice is intentionally simple: mine a safer planet for higher success odds and a lower reward range, or attempt a deeper world with lower odds and a larger potential payout.

4. The 30-World Progression

The system contains 30 original planets split across six zones. Difficulty, recommended power, mission duration and maximum reward all increase as the player travels deeper.

Zone	Region	Planets	Difficulty	Recommended Power	Mission Time	Reward Ceiling
1	Frontier	01–05	Easy	140 → 420	30 sec → 8 min	Up to 30 \$STAR
2	Outer Belt	06–10	Normal	520 → 1,200	10 → 45 min	Up to 90 \$STAR
3	Void Sector	11–15	Hard	1,500 → 3,200	1 → 2 h	Up to 240 \$STAR
4	Deep System	16–20	Dangerous	3,800 → 7,500	2.5 → 4.5 h	Up to 650 \$STAR
5	Dark Expanse	21–25	Extreme	8,800 → 17,000	5 → 8 h	Up to 1,500 \$STAR
6	Forbidden Orbit	26–30	Anomaly	20,500 → 45,000	6 → 8 h	Up to 5,000 \$STAR

4.1 Planet roster

- Frontier** — Aera • Lyra • Noma • Velis • Thera
- Outer Belt** — Kryos • Oryn • Vara • Kelon • Tyrax
- Void Sector** — Solven • Vanta • Kaelis • Myr • Orionis
- Deep System** — Noxia • Zeron • Vorax • Talvos • Nexara
- Dark Expanse** — Dravos • Pyros • Umbra • Cronis • Helion
- Forbidden Orbit** — Obsidia • Xeron • Titanis • Abyss • Eclipse

Example: Aera

Planet 01 has a 90 minimum / 140 recommended Fleet Power target. The public build shows 30-second missions, a 5–8 \$STAR reward range and a 0.6% rare-drop chance for the Verdant Ore Core.

Example: Eclipse

Planet 30 is the final Anomaly world. The current design uses 45,000 recommended Fleet Power. At recommended power the target success rate is 80%; even extreme over-powering still caps at 99%.

5. Fleet, Ships & Refits

The current shipyard contains 24 hulls across six classes. Every new hull is purchased at MK-I using \$STAR. The current economy design supports refits through MK-V, making upgrades a secondary token sink after initial ship acquisition.

Class	Power Range	Entry Price	Role
Scout	100–420	500 \$STAR	Fast entry-class progression
Miner	330–2,900	1,450 \$STAR	Extraction-focused hull family
Cruiser	700–2,600	3,000 \$STAR	Mid-tier fleet backbone
Destroyer	2,200–4,800	9,000 \$STAR	High-power advanced hulls
Dreadnought	4,000–9,200	16,000 \$STAR	Late-game heavy fleet

Class	Power Range	Entry Price	Role
Capital Ship	11,000–18,500	40,000 \$STAR	Endgame progression

5.1 Current hull catalogue

Hull	Class	Rarity	Fleet Power	MK-I Price (\$STAR)
SCOUT-01	Scout	Common	100	500
SCOUT-02	Scout	Common	160	750
RANGER	Scout	Common	260	1,100
PROSPECTOR	Miner	Common	330	1,450
PHANTOM	Scout	Uncommon	420	1,800
HAULER	Miner	Uncommon	560	2,400
VANGUARD	Cruiser	Uncommon	700	3,000
DRILLHEAD	Miner	Uncommon	900	3,800
NOVA	Cruiser	Rare	1,200	5,000
EXCAVATOR	Miner	Rare	1,550	6,400
AURORA	Cruiser	Rare	1,900	7,800
TITAN	Destroyer	Rare	2,200	9,000
HALCYON	Cruiser	Rare	2,600	10,600
FORGE	Miner	Rare	2,900	11,800
WARDEN	Destroyer	Epic	3,400	13,800
DREADNOUGHT	Dreadnought	Epic	4,000	16,000
BASTION	Destroyer	Epic	4,800	19,000
COLOSSUS	Dreadnought	Epic	5,800	22,500
LEVIATHAN	Dreadnought	Epic	7,500	28,000
JUGGERNAUT	Dreadnought	Legendary	9,200	34,000
SOVEREIGN	Capital Ship	Legendary	11,000	40,000
MERIDIAN	Capital Ship	Legendary	13,000	47,000
OMEGA	Capital Ship	Legendary	15,000	55,000
APEX	Capital Ship	Legendary	18,500	68,000

6. Mining Missions & Probability

6.1 Probability model

Each planet stores a minimum and recommended Fleet Power. Below minimum, the mission is unavailable. At minimum, the design is roughly coin-flip territory. At recommended power, the target success rate is 80%. Additional power increases success toward 99%, which is the hard ceiling.

Scenario	Illustrative Outcome
Below minimum	Mission locked
At minimum	Approximately 50–55%
At recommended power	80%
Above recommended	Odds rise progressively
Maximum	99% — never 100%

6.2 Mission lifecycle

Stage	Current Design
1. Launch	The wallet starts an expedition using the selected active fleet. The mission stores the success chance at launch.
2. Commitment	The current design references a server-committed seed that is revealed after the mission ends.
3. Resolution	The mission resolves as success or failure using the launch-time chance and the revealed randomness input.
4. Reward	On success, the reward is drawn from the planet's configured range and adjusted by fleet traits.
5. Settlement	The mission reward is paid from the Reward Vault. Failure pays nothing and does not destroy the ship.

6.3 Mission history

The Missions interface is designed to show the active expedition and the most recent 25 settled missions for the connected wallet, with mission data read from the game contract.

7. \$STAR Utility & Reward Economy

\$STAR is the current in-game token symbol used throughout the public build. The public site currently indicates that the final token contract address has not yet been configured. The token's intended role is to connect progression, ship acquisition, upgrades, secondary trading and the mining reward system.

7.1 Reward Vault

Mining rewards are not modeled as an unlimited emission. They are paid from a finite Reward Vault held by the game contract design. If the vault does not contain enough \$STAR for a configured payout, the current public design states that it pays what is available.

Current vault inflows

60% of each ship purchase → Reward Vault
60% of each ship refit → Reward Vault
2.5% of each player-to-player ship sale → Reward Vault

The public build does not currently specify the destination of the remaining 40% of ship purchase/refit spend. That allocation should be disclosed in the final production tokenomics before launch.

7.2 Utility & sink status

Utility	Status	Purpose
Ship purchases	Included in launch design	Primary sink; new hulls purchased with \$STAR.
Ship refits MK-II → MK-V	Included in launch design	Secondary sink; progression capped at MK-V.
Player market fee	Included in launch design	2.5% of commander-to-commander sales flows to the Reward Vault.
Repairs	Planned	Reserved for an optional future ship-damage system.
Special mining permits	Planned	Time-limited access to event worlds.
Cosmetics	Planned	Hull liveries and hangar themes; explicitly non-power.
Fleet modules	Planned	Slot modifiers for future fleet expansion beyond the initial three-ship structure.
Rare expeditions	Planned	One-off missions with their own reward pool.

7.3 Sustainability logic

- Ship acquisition removes tokens from player balances while recycling part of spend into the mining pool.
- Refits create a repeat progression sink after a player already owns a hull.
- Secondary sales generate ongoing Reward Vault inflow without requiring new ship minting.
- A finite vault makes reward capacity observable and prevents the interface from implying unlimited payouts.
- Failure outcomes create gameplay risk without destroying purchased ships in the current MVP.

8. Player Market

STARMINER includes a commander-to-commander ship market. Players can list owned hulls for sale and other commanders can purchase them. The current market logic keeps 2.5% of each sale for the Reward Vault and transfers the remainder to the seller in the same transaction.

This creates a second economic layer beyond the primary Shipyard: new ships enter through the Shipyard, while existing ships can circulate between players through the secondary market.

Design goal

The player market should support liquidity for gameplay assets without becoming the game itself. The core reason to own a ship remains Fleet Power, mission access and progression.

9. Onchain Architecture

The public build is designed for Robinhood Chain and identifies chain ID 4663 in its operator deployment flow. Ships, missions and sales are intended to be wallet-signed transactions.

9.1 Current deployment model

Component	Role
Game token	Token contract address must be configured.
Owner / treasury	Owner and treasury address are part of deployment configuration.
Randomness signer	Server-side signer address is required by the current mission-randomness design.
Game contract	Constructor includes the token, owner, treasury, signer, 24 hulls and 30 planet configurations.
Reward Vault	Must be seeded before first mining payouts; 60% of purchases/refits subsequently replenish it.

9.2 Trust and randomness

The current mission design uses a server-committed seed that is revealed after a mission ends. This is stronger than client-side randomness, but the randomness signer remains a security-critical component. Before a production launch, the exact commitment / reveal verification logic should be documented and independently reviewed.

A future move to a decentralized or externally verifiable randomness source could further reduce operator trust, but this is a potential hardening path rather than a feature currently promised by the public build.

10. What Is Included Today

The current public product already exposes the full game structure and economy UI, but the site also states that the game contract is not live yet. The safest way to describe the present state is: product and game design are built; production onchain activation is pending.

Module	Included in current build
Planet system	30 fictional planets across six zones with progression, power requirements, mission times and reward ranges.
Fleet Builder	Three active ship slots, Total Fleet Power, Strong/Risky/Locked world categorization and class-trait architecture.

Module	Included in current build
Shipyard	24 hulls across six classes, with MK-I prices and Fleet Power values.
Refit design	MK-I → MK-V upgrade path represented as an active economic sink.
Hangar	Wallet-based owned-ship and active-fleet interface.
Mission system	Expedition lifecycle, mission history design and success/failure rules.
Reward Vault	Finite-vault accounting model with purchase/refit/market inflows.
Player market	Secondary ship listing and sale flow with 2.5% vault fee.
Leaderboard	Categories for Strongest Fleet, Top Miners, Furthest Planet, Missions Completed and Total Resources Mined.
Operator deployment	Configuration flow for token, owner/treasury, randomness signer, game contract and vault funding.

11. Roadmap: What Comes Next

The roadmap below separates production activation from features explicitly marked as planned in the current Economy section. It does not present speculative features as commitments.

Phase	Status	Scope
Phase 0 — Current Build	Complete	30-world game structure, 24-hull Shipyard, Fleet Builder, Hangar, Missions UI, Reward Vault model, player market UI, leaderboard and deployment tooling.
Phase 1 — Onchain Activation	Next	Configure the final \$STAR token address, owner/treasury and randomness signer; deploy game contract; fund Reward Vault; activate live purchases, missions, refits, trading and leaderboard reads.
Phase 2 — Repairs & Damage	Planned	Optional damage system and ship repairs, creating an additional gameplay sink.
Phase 3 — Event Mining	Planned	Special mining permits that unlock time-limited event worlds.
Phase 4 — Cosmetics	Planned	Hull liveries and hangar themes with no power advantage.
Phase 5 — Fleet Modules	Planned	Slot modifiers supporting future fleet progression beyond the initial three-ship structure.
Phase 6 — Rare Expeditions	Planned	One-off high-value missions with a separate reward pool.

11.1 Recommended launch-hardening items

These are whitepaper recommendations, not announced roadmap commitments:

- Publish verified production contract addresses and the final \$STAR token address.
- Disclose the allocation of the 40% of purchase/refit spend that does not flow into the Reward Vault.
- Publish the exact refit pricing and Fleet Power progression from MK-II through MK-V.
- Document class-trait values and how multiple class traits affect mission rewards or probabilities.
- Document the randomness commitment / reveal process and obtain an independent smart-contract review.
- Expose Reward Vault balance and inflow/outflow history prominently before enabling real-value mining.

12. Fairness, Sustainability & Risk

12.1 Player-facing fairness

- Mining odds are visible before launch.
- Success probability is capped at 99%; no fleet can make mining mathematically certain.
- Failure currently pays zero but does not destroy purchased ships.
- Deeper planets pair higher potential rewards with longer durations and higher Fleet Power requirements.
- Cosmetics are planned as non-power items.

12.2 Economic risks

Risk	Why it matters
Reward Vault depletion	If outflows exceed inflows, available mining payouts may fall because rewards are constrained by vault liquidity.
Token volatility	\$STAR-denominated prices and rewards can change materially in fiat value if the token is externally traded.
Gameplay balance	Poor ship pricing, refit curves or reward ranges can create dominant strategies or unsustainable progression.
Secondary-market liquidity	Players may not always find a buyer for an owned hull.
Smart-contract risk	Contract bugs can affect assets, mission settlement or Reward Vault accounting.
Randomness / signer risk	The current randomness signer is security-critical and requires careful operational controls.

No-return promise

STARMINER should consistently describe \$STAR payouts as game rewards, not guaranteed income, ROI or passive yield. The public build already states that nothing is guaranteed.

13. Launch Readiness

The public operator page identifies the following prerequisites before the game can be considered live:

- ☐ Set the final \$STAR token contract address.
- ☐ Set the owner / treasury address.
- ☐ Configure the randomness signer address and keep the signer private key server-side only.
- ☐ Deploy the game contract with the 24 hull and 30 planet configurations.
- ☐ Seed the Reward Vault so the first successful missions can be paid.
- ☐ Verify live Shipyard purchases, refits, mission settlement and player-market transfers on Robinhood Chain.
- ☐ Verify the leaderboard and economy dashboard read only real contract data.

13.1 Public launch transparency

At launch, STARMINER should publish a simple transparency block containing the token address, game contract address, Reward Vault balance, treasury / owner address, fee schedule, randomness design, and a direct link to the block explorer. This lets players verify the same system the interface describes.

14. Closing Thesis

STARMINER's strongest idea is not simply 'mine and earn'. It is the progression relationship between fleet composition, visible power, mission probability and access to increasingly difficult worlds.

The 30-world system provides a clear long-term objective. The three-ship limit keeps fleet decisions readable. The 24-hull market provides progression depth. The finite Reward Vault links economic activity back to gameplay rewards without presenting the system as an infinite source of value.

START WITH ONE SMALL SHIP. BUILD THE FLEET. REACH ECLIPSE.

STARMINER — PLAY TO EARN

Source Note

This whitepaper was prepared from the public STARMINER application available at <https://starminerr.vercel.app/> and its current Planets, Map, Fleet, Hangar, Market, Missions, Leaderboard, Economy, How It Works and Operator / Deploy pages, reviewed in September 2026.

Where the public build does not specify an exact value or rule, this document avoids inventing one. Items labeled 'Planned' are taken from the current Economy page. Items labeled as recommendations are editorial launch-readiness suggestions rather than product commitments.