

## Algorand: Designing a High-Performance Blockchain

---

Click [HERE](#) for the full copy of this report in PDF format.

---

### Executive Summary

---

- Algorand (\$ALGO) is a layer 1 blockchain that employs a unique consensus mechanism called Pure Proof of Stake (PPoS), which relies on random node selection to promote decentralization, security, and scalability. Algorand Foundation's mission is to empower a dynamic, inclusive, and borderless global ecosystem based on the Algorand blockchain technology.
  - Algorand Layer 1's Algorand Virtual Machine (AVM) powers Algorand's smart contracts and is similar to Ethereum's EVM. It can process over 6,500 transactions per second with finality under 3.7 seconds. Transactions on Algorand cost only ~0.001 ALGO. Algorand's AVM also allows for Algorand Standard Assets (ASAs). ASAs enable specific controls for the issuer of an asset, such as quarantining asset accounts for investigative purposes.
  - Algorand's distinct governance model incentivizes participation by rewarding "Governors" with Algo tokens. Algorand Governors can expect an annual reward rate of anywhere from 6%-24%, depending on the amount of Algo committed to governance accounts. Many Algorand DeFi protocols have enabled "Liquid Governance," which allows users to participate in governance while using governance-locked ALGO in a capital-efficient manner.
  - Algorand has a burgeoning NFT community that has grown despite tough market conditions. Volumes peaked in September, the same time that FIFA announced an NFT Platform in partnership with Algorand.
  - Explore our comprehensive research report on Algorand for further insights and analysis.
- 

### Key Slides From This Report...

---

Project Overview (Slide 3)

## Project Overview

Algorand is a proof-of-stake (PoS) layer 1 blockchain that employs a unique consensus mechanism called Pure Proof of Stake (PPoS), which relies on random node selection to promote decentralization, security, and scalability. Algorand Foundation's mission is to empower a dynamic, inclusive, and borderless global ecosystem based on the Algorand blockchain technology. The Algo token is the native currency of the network.

### The Problem & Landscape

- Over the past several years, several smart contract platforms such as Solana, Avalanche, and Near have emerged with the goal of solving the scalability issue plaguing the future of decentralized computing.
- Blockchains today have yet to solve the blockchain trilemma: achieving security, scalability, and decentralization without sacrificing at least one of them. Algorand has a unique approach that asserts to solve the trilemma through its unique Pure Proof of Stake consensus mechanism.
- Algorand is highly reliable – with near instant finality and experiencing zero downtime since its launch.

### The Algorand Solution

- Algorand is a PoS network offering potentially scalable and secure blockchain infrastructure.
- Algorand's architecture is designed to merge decentralized and traditional finance and onboard the masses of users and institutions.

Fast / Scalable

Algorand smart contract platform operates at over 6,500 TPS and are final in under 3.7 seconds<sup>1</sup>

Low Cost

The security model hinges on randomness and therefore allows for low-cost txns

Institutional Applications

Semi-permissioned infrastructure suitable for KYC and AML laws

Source: Fundstrat, Algorand, Crunchbase, 6500 TPS & 3.7 second finality reported by Algorand Inc.

3

Pure Proof of Stake (PPoS) (Slide 8)

## Pure Proof of Stake (PPoS)

- Algorand attempts to solve the blockchain trilemma by offering decentralization, scalability, and security through its Pure Proof of Stake (PPoS) consensus mechanism.
- PPoS requires a lower staking minimum than traditional PoS networks, distributes rewards to all token holders, and relies on randomness to mitigate the risk of adversarial attacks on the network, as opposed to staking and slashing.
- In PPoS, participation nodes are randomly selected to propose a block. The likelihood that a participation node is selected is directly proportional to how much Algo it has online – analogous to the number of tickets held in a lottery.

	Traditional PoS	PPoS
Overview	Users are required to lock up a designated amount of capital to become a validator. Block producers are generally chosen based on a combination of capital committed, age of capital committed, and randomness.	Everyone with a de minimis amount of a native token can produce blocks. Block producers are chosen via a cryptographic sortition process known as a Verifiable Random Function (VRF). Selected nodes are hidden from external observers, preventing adversarial attacks on a block-producing node.
Consensus Participants	Stakers (Example: ETH Node requires 32 ETH)	Anyone with at least 0.1 Algo
% of Supply Required to Launch Attack on Network	51%	34% <sup>1</sup>
Security Model	Cost to acquire 51% of network + Slashing Malicious Actors	Cost to acquire 1/3 of network + Randomness
Forkable?	Yes	No <sup>2</sup>

Source: Fundstrat, Algorand, (1) Initial whitepaper cites a required 2/3 honest majority, (2) Verified by Algorand via formal proof.

8

Growing Ecosystem (Slide 29)

## Growing Ecosystem

- Algorand has over 500 global organizations using its network. Below are select ecosystem participants.

Apps/Web3 (100+)

Infrastructure (90+)

Tooling (35+)

DeFi (90+)

Wallets / Exchanges (10+)

Dev Partners

Payment/Stablecoin

Source: Fundstrat, Algorand

### NFTs (Slide 30)

## NFTs

- Algorand has a vibrant NFT community that has grown despite tough market conditions. Volumes peaked in September, the same time that FIFA announced an NFT Platform in partnership with Algorand.

Highlights

- Algorand saw NFT sales steadily increase (in Algo terms) throughout 2022 despite there being a market-wide bear market. Algorand NFTs had a record month in September of 2022, with \$8.7M in monthly sales
- Algorand NFT marketplaces such as Rand Gallery ALGOxNFT.com feature a wide range of NFTs such as artwork, profile pictures, and other collectibles.
- Algorand partnered with FIFA to release NFTs during the World Cup. FIFA+ Collect NFTs consist of collectible NFTs based on soccer start and teams.
- Music artist, Lil Durk, Co-Founded an NFT project on Algorand named NXTG3NZ in 2022.

Algorand NFT Monthly Sales

Millions (Algos)

Month	Sales (Millions of Algos)
Aug-21	0.3
Sep-21	0.9
Oct-21	1.3
Nov-21	2.3
Dec-21	1.5
Jan-22	3.6
Feb-22	4.6
Mar-22	2.9
Apr-22	3.7
May-22	3.7
Jun-22	4.3
Jul-22	4.9
Aug-22	6.5
Sep-22	8.7
Oct-22	4.0
Nov-22	2.5
Dec-22	4.3
Jan-23	5.3

Source: Fundstrat, Algorand, NFTExplorer.app

### Key Network Adoption Metrics (Slide 38)

## Key Network Adoption Metrics

- Consistent with many other layer 1 networks, adoption metrics spiked during the recent bull market and have since corrected significantly.

We note the outsized negative effects that early inflationary pressures had on token price. We think that a steadier distribution schedule moving forward might lead to a healthier, more sustainable ecosystem.

Quarter End	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022
Algo Price (\$)	\$ 1.36	\$ 0.88	\$ 1.62	\$ 1.67	\$ 0.93	\$ 0.31	\$ 0.35	\$ 0.17
% Change	311%	-35%	84%	3%	-44%	-67%	13%	-51%
Circulating Supply (MM)	2,618	3,110	6,140	6,373	6,638	6,905	7,011	7,117
% Change	119%	19%	97%	4%	4%	4%	2%	2%
Market Cap (\$MM)	\$3,536	\$2,745	\$9,756	\$10,653	\$6,110	\$2,144	\$2,445	\$1,233
% Change	1240%	-22%	255%	9%	-43%	-65%	14%	-50%
FD Supply (MM)	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
% Change	0%	0%	0%	0%	0%	0%	0%	0%
FD Market Cap (\$MM)	\$13,558	\$8,815	\$16,182	\$16,686	\$9,286	\$3,100	\$3,500	\$1,700
% Change	311%	-35%	84%	3%	-44%	-67%	13%	-51%
Avg Daily Active Addresses	30,414	26,404	46,323	146,897	37,206	27,916	55,938	31,642
% Change	24%	-13%	75%	217%	-75%	-25%	100%	-43%
Avg Daily Txn Count (MM)	3.75	4.32	5.05	7.34	6.92	3.84	4.23	4.06
% Change	33%	15%	17%	45%	-6%	-45%	10%	-4%
Total Fees	\$94,323.4	\$94,113.8	\$120,330.8	\$307,537.3	\$253,848.2	\$86,442.3	\$37,986.0	\$34,870.0
% Change	424%	12%	28%	156%	-17%	-66%	-56%	-8%
Total Value Transferred (\$MM)	\$ 10,274.05	\$ 7,070.81	\$ 11,398.35	\$ 20,058.95	\$ 11,277.68	\$ 6,118.38	\$4,463.88	\$4,278.64
% Change	1141%	-31%	61%	76%	-44%	-46%	-27%	-4%
Average TVL (\$MM)	NA	NA	NA	\$65.8	\$107	\$97	\$87	\$77
% Change	NA	NA	NA	NA	63%	-9%	-10%	-12%

Source: Fundstrat, Algorand, Defi Llama, AlgoExplorer

38

---

## Disclosures

---

This research is for the clients of FS Insight only. FSI Subscription entitles the subscriber to 1 user, research cannot be shared or redistributed. For additional information, please contact your sales representative or FS Insight at [fsinsight.com](https://fsinsight.com).

### Conflicts of Interest

This research contains views, opinions and recommendations of Fundstrat. The organization referenced in this report is a client of Fundstrat and Receives Fundstrat's published research reports. The organization referenced in this report has commissioned/paid for this specific research project and has permissions to distribute. This report is intended for research and educational purposes.

### General Disclosures

FS Insight is an independent research company and is not a registered investment advisor and is not acting as a broker dealer under any federal or state securities laws.

FS Insight is a member of IRC Securities' Research Prime Services Platform. IRC Securities is a FINRA registered broker-dealer that is focused on supporting the independent research industry. Certain personnel of FS Insight (i.e. Research Analysts) are registered representatives of IRC Securities, a FINRA member firm registered as a broker-dealer with the Securities and Exchange Commission and certain state securities regulators. As registered representatives and independent contractors of IRC Securities, such personnel may receive commissions paid to or shared with IRC Securities for transactions placed by FS Insight clients directly with IRC Securities or with securities firms that may share commissions with IRC Securities in accordance with applicable SEC and FINRA requirements. IRC Securities does not distribute the research of FS Insight, which is available to select institutional clients that have engaged FS Insight.

As registered representatives of IRC Securities our analysts must follow IRC Securities' Written Supervisory Procedures. Notable compliance policies include (1) prohibition of insider trading or the facilitation thereof, (2) maintaining client confidentiality, (3) archival of electronic communications, and (4) appropriate use of electronic communications, amongst other compliance related policies.

FS Insight does not have the same conflicts that traditional sell-side research organizations have because FS Insight (1) does not conduct any investment banking activities, and (2) does not manage any investment funds.

This communication is issued by FS Insight and/or affiliates of FS Insight. This is not a personal recommendation, nor an offer to buy or sell nor a solicitation to buy or sell any securities, investment products or other financial instruments or services. This material is distributed for general informational and educational purposes only and is not intended to constitute legal, tax, accounting or investment advice. The statements in this document shall not be considered as an objective or independent explanation of the matters. Please note that this document (a) has not been prepared in accordance with



legal requirements designed to promote the independence of investment research, and (b) is not subject to any prohibition on dealing ahead of the dissemination or publication of investment research. Intended for recipient only and not for further distribution without the consent of FS Insight.

This research is for the clients of FS Insight only. Additional information is available upon request. Information has been obtained from sources believed to be reliable, but FS Insight does not warrant its completeness or accuracy except with respect to any disclosures relative to FS Insight and the analyst's involvement (if any) with any of the subject companies of the research. All pricing is as of the market close for the securities discussed, unless otherwise stated. Opinions and estimates constitute our judgment as of the date of this material and are subject to change without notice. Past performance is not indicative of future results. This material is not intended as an offer or solicitation for the purchase or sale of any financial instrument. The opinions and recommendations herein do not take into account individual client circumstances, risk tolerance, objectives, or needs and are not intended as recommendations of particular securities, financial instruments or strategies. The recipient of this report must make its own independent decision regarding any securities or financial instruments mentioned herein. Except in circumstances where FS Insight expressly agrees otherwise in writing, FS Insight is not acting as a municipal advisor and the opinions or views contained herein are not intended to be, and do not constitute, advice, including within the meaning of Section 15B of the Securities Exchange Act of 1934. All research reports are disseminated and available to all clients simultaneously through electronic publication to our internal client website, [fsinsight.com](https://fsinsight.com). Not all research content is redistributed to our clients or made available to third-party aggregators or the media. Please contact your sales representative if you would like to receive any of our research publications.

Copyright © 2023 FS Insight LLC. All rights reserved. No part of this material may be reprinted, sold or redistributed without the prior written consent of FS Insight LLC.