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Investment Thesis

Celestia

TIA

Basic Information

Token type	Native Currency
Price	$2.27
GCCS Classifcation	Blockchain Accelerator, Infrastructure, Native Currency
Sector	Blockchain Accelerator

Source: CoinGecko, Data as of April 8, 2025

Key Figures

Price Range (1Y)	$2.31 - $12.49
All-Time High	$20.8
All-Time High Date	10 February 2024
Down From All-Time High	89.2%
Market Capitalization	$1.34B
Trading Volume (24H)	$99M
Circulating Supply	591M TIA
Maximum Supply	∞
Number of Networks Integrated	65+
Annualized Staking Yield	10.40%

Source: CoinGecko, DeFi Llama, Token Terminal, Staking Rewards, Celestia. Data as of April 8, 2025

Overview

Celestia is a Data Availability protocol offering a revolutionary approach to blockchain scalability. Imagine it as the "Google Drive" for blockchain data, ensuring users can verify that data exists efficiently without having to store or process everything themselves. Traditional blockchains are monolithic, meaning they handle execution, settlement, consensus, and data availability in one network. This design struggles to overcome the blockchain trilemma, where scalability, decentralization, and security must often sacrifice one for the other two.

Celestia introduces a modular architecture, where these core functions are separated into specialized layers. Think of it as the difference between a single road and a well-planned highway system: monolithic blockchains resemble congested roads that handle all traffic, while modular blockchains like Celestia provide optimized lanes for different types of data flows, preventing bottlenecks.

As a dedicated Data Availability (DA) layer, **Celestia ensures that blockchain data is reliably stored and accessible to parties wanting to verify the integrity of a network**. Its standout innovation is Data Availability Sampling (DAS), a method that enables light nodes to verify data integrity by sampling smaller fragments of block data instead of downloading the entire blockchain history. This dramatically reduces costs and resource requirements, promoting decentralization and accommodating larger block sizes.

By offloading data storage to Celestia, **costs are lowered by up to 99% compared to storing data on Ethereum**, allowing Ethereum to focus on settlement and execution. This modular system makes Celestia a critical enabler for building scalable, efficient, and decentralized blockchain ecosystems.

- **June 2019:** Celestia, initially called LazyLedger, was co-founded by Mustafa Al-Bassam, Ismail Khoffi, John Adler, and Nick White.
- **June 2021:** Rebranded to Celestia, launching an MVP network showcasing DAS technology via Light Clients.
- **December 2021:** Celestia's testnet went live, marking a significant step in modular blockchain development.
- **October 2023:** The mainnet was deployed after three years of development, accompanied by an airdrop, cementing its position as a leading modular blockchain.
- **Q1 2025**: Latest upgrades (Shwap, Ginger) reduced block time from 12-6 seconds, increased block time from 2-8 MBs and reduced storage requirements for nodes by 16.5x

Key takeaways

- **Celestia introduces a modular approach to blockchain scaling**, enabling smart contract platforms like Ethereum and Layer 2 solutions such as Arbitrum and Optimism to offload data availability, enhancing efficiency.
- Celestia functions like a well-organized highway system, optimizing traffic flow compared to monolithic blockchains, which resemble congested single-lane roads.
- The **native token, TIA, facilitates data availability transactions** (BlobSpace), supports governance, and secures the network through staking.

Risk factors

- **Technology Risk:** Modularity as a scaling approach is unproven at scale, leaving questions about its durability and security under real-world conditions.
- **Market Valuation Risk:** Early excitement over Celestia's modular scaling solution and its incentivized TIA staking mechanisms may have inflated the network's valuation, making its token vulnerable to significant medium-term corrections.
- **Competition Risk:** Celestia competes with emerging data availability protocols such as EigenDA, NearDA, Topia, and Avail. Additionally, Ethereum's potential adoption of native data-sharding solutions could diminish Celestia's relevance in a few years. Ethereum's blobs could make it cheaper for L2s to avoid using Celestia as well.
- **Regulatory Risk:** Uncertainty surrounds the legal classification of scaling solution tokens like TIA, exposing the protocol to potential regulatory scrutiny.