



Investment Thesis

Celestia

TIA

Token type	Native Currency
Price	\$12.23
GCCS Classification	Data Availability, Infrastructure, Native Currency
Sector	Data Availability

Key Figures

13-Week Range	\$11.87 - \$20.16
Market Rank	#58
Market Capitalization	\$2.20B
Volume (24h)	\$52.39M
Circulating Supply	178,961,335
Staking Yield (Annualized)	11.40%
# of Networks Integrating Celestia	+50
ATH	\$20.16
ATH Date	February 9, 2024
Down from ATH	-39.33%

Source: CoinGecko, DeFi Llama, Token Terminal, Staking Rewards, Celestia. Data as of April 8, 2024

Overview

Celestia is a **Data Availability (DA)** protocol, a new approach for scaling blockchains. Think of it as the **Google Drive** for blockchain data that helps users verify that data exists in an efficient manner. For context, most blockchain are monolithic by nature, meaning that a single network handles all four core functions: **execution, settlement, consensus, and data availability**. However, this setup inevitably faces the blockchain trilemma, wherein achieving **scalability, decentralization, and security** often requires prioritizing two at the expense of the third. Enter modular networks, a subset of blockchains that disentangle these core functions into distinct layers. To simplify, consider the analogy of a single road versus a well-planned highway system. **Monolithic** networks are akin to single roads, where increased traffic worsens congestion. Conversely, **modular** networks resemble a well-designed highway system with lanes serving specific purposes such as heavy cargo transport, long-distance travel, or commuting. This modularity enables efficient traffic management, preventing congestion as different types of traffic are accommodated seamlessly.

Celestia focuses on Data Availability. Put simply it ensures that blockchain data is reliably stored and accessible to all parties that want to verify the integrity of a given network. Celestia's business model consists of charging a fee to scaling solutions for posting data on its platform, and its pivotal innovation lies in what's called as **Data Availability Sampling (DAS)**. A technology that empowers light nodes to verify data integrity without downloading the entire blockchain history. Instead, block data is segmented into smaller portions, and these fragments are sampled in succession, gradually increasing confidence in the data's availability. This advancement allows for accommodating larger block sizes without inflating verification costs, which is crucial for promoting decentralization due to the minimal resource requirements. As a result, Ethereum scaling solutions can save up to **99%** by submitting data to Celestia rather than storing it directly on the Ethereum blockchain, reserving Ethereum solely for settlement purposes.

- **Celestia** was founded in **2019** under the name LazyLedger, led by co-founder Mustafa Al-Bassam, former Tendermint engineer Ismail Khoffi, John Adler, and Nick White.
- In **June 2021**, Lazy Ledger was rebranded to Celestia, coinciding with an MVP network that featured Data Availability Sampling Light Clients.
- In **December 2021**, Celestia's testnet went live.
- In **October 2023**, the network was deployed on mainnet accompanied by an airdrop after three years of development.

Key takeaways

- **Celestia** is a **data availability** protocol that helps scale smart contract platforms like Ethereum and scaling solutions like Arbitrum and Optimism.
- Its purpose is to **separate** the key four functions of a monolithic blockchain, thus allowing networks to become **scalable** without sacrificing their **security or decentralization**.
- A simple analogy for Celestia would be to compare **single-lane roads and highways**. Monolithic blockchains are like a single congested road, while modular blockchain functions akin to a well-organized highway system, efficiently accommodating diverse and higher traffic needs.
- **TIA**, the native token of **Celestia**, serves as a **gas currency** for developers to facilitate data availability (BlobSpace) transactions, acts as a **governance** token, and can be **staked** to validate Celestia's security.

Risk factors

- **Technology risk:** Modularity is a novel approach for scaling that hasn't been battle-tested yet, so its durability remains to be seen under real-world conditions.
- **Market Risk:** Celestia's pioneering modular scaling approach stirred considerable market excitement, bolstered further by allowing users to earn airdrops via TIA staking from networks that integrated its DA solution. However, this early hype potentially inflated the network's valuation, leaving its token vulnerable to significant medium-term downturns.
- **Competition Risk:** Celestia faces competition from emerging protocols like EigenDA, NearDA, Topia, and Avail. The rapid adoption of data-sharding approaches by Ethereum could also reduce Celestia's necessity over the medium term (2-3 years in the best case scenario).
- **Regulatory Risk:** the legal status of scaling solution tokens isn't clear yet.

Figure 1
Price Performance

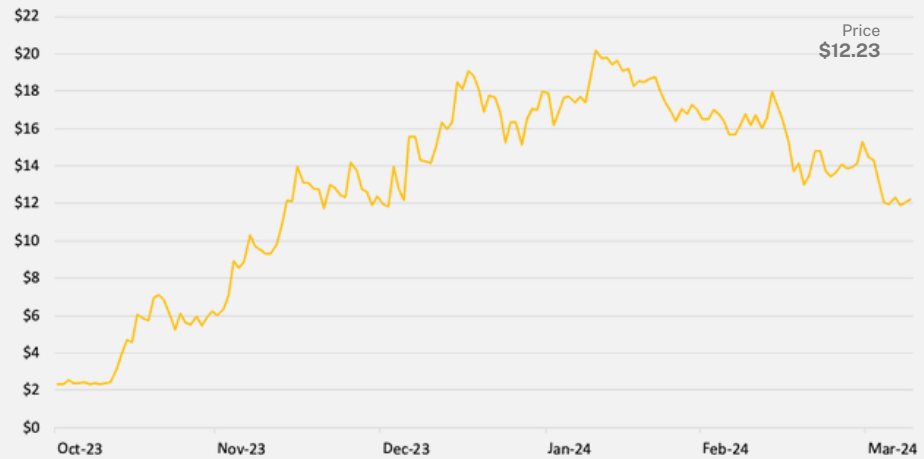
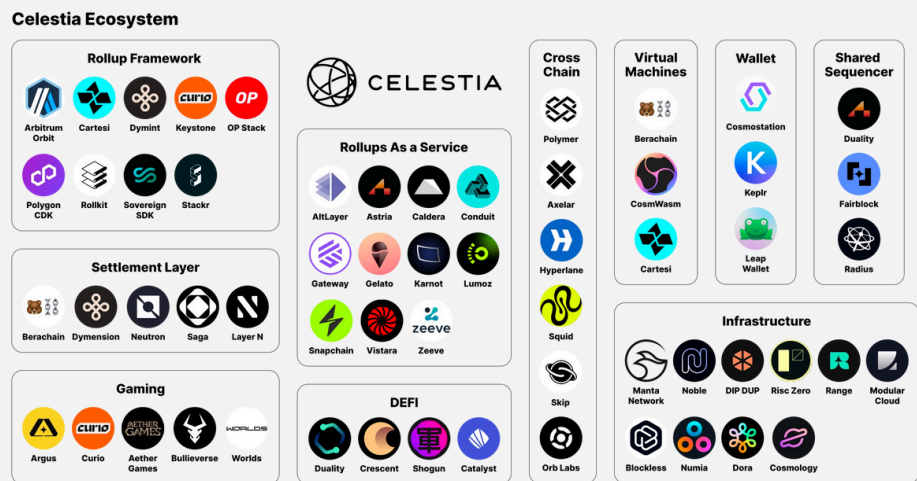


Figure 2
Celestia Ecosystem of Integrations



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