Bitoku

The Storage Layer for Solana Programs

Mission

Building the Missing Storage Layer for Solana Programs

▷ While smart contracts are the *World CPU*, we're building the *World SSD* connected to it.

▷ Today, DApps can only use "compute" code.

▷ With Bitoku, they can also open/close/read/write/delete (large) files, maintaining the same decentralization, censorship-resistance etc.

▷ This enables a whole new class of DApps in Web3, DeFi and Metaverse.

Problem

- Solana **cannot store** large amounts of data on-chain.

- Today's **DApps are limited** for lack of a storage layer: Credit reports, IDs, contracts, photos/vids (Web3 AirBnb/Zillow), NFTs, …

- Whole classes of DApps not possible: Dropbox, Enterprise backup, public records, lawyer/notary, …

- You can store off-chain but that **defies the whole point** of blockchain.

- Even keeping only proof on-chain (or using IPFS) doesn't protect against data removal. **No consensus on existence**.

- Existing storage blockchains (Filecoin, SCP, etc.) are **not natively integrated** with Solana or other smart contract chains and/or are archival only (ArWeave).

Seen in San Francisco, Embarcadero.

Solution 1: Bitoku Storage Chain

- Bitoku is a **blockchain** of its own for **storing data** and **handling requests for file I/O** operations received from Solana programs.

- Bitoku SDK reads requests from Solana accounts, handles them & writes results back to Solana accounts, enabling **random-access file I/O**.

- Bitoku validator nodes **validate** storage transactions & **monitor** storage provider nodes through challenges (PoRep, PoST).

- Bitoku chain itself is PoS (Tendermint or **Solana fork**), modified to handle storage transactions.

- **Borrowing** from ScPrime, Filecoin & Co. for the actual storage handling.

- Aiming for several thousand validator nodes & **millions of storage provider nodes** within ~ 3 years.

Bitoku Social Storage Blockchain
Startup in Stealth Mode

Submitting 2 Things

Bitoku Storage Chain.
Work in Progress.

Two-Pronged Approach

Crowdfunding "RightNow".
Completed, see https://rightnow.so

▷ Blockchain-Based Storage Layer for Solana

▷ Raised $450k using our own Crowdfunding Protocol and DApp built on Solana: **RightNow**.

▷ So far only offered to Closed User Group.
(Customers of Bernie's previous company Antsle)

▷ Plan to raise $10M+ later this year with public crowdfunding offer using **RightNow**.

▷ Build product in 2023, launch Devnet/Testnet by mid 2024.

▷ Generalized **NodeStore** to a multi-tenant crowdfunding platform named "RightNow".

▷ Innovative San Diego Auction: Perpetual sense of urgency. Affilitate Program. Project Token.

▷ DApp is ready now.

▷ Has been successfully used to fund our mission.

▷ Demonstrates that we can build stuff.

▷ Might or might not launch RightNow commercially.

Solution 2: RightNow Crowdfunding

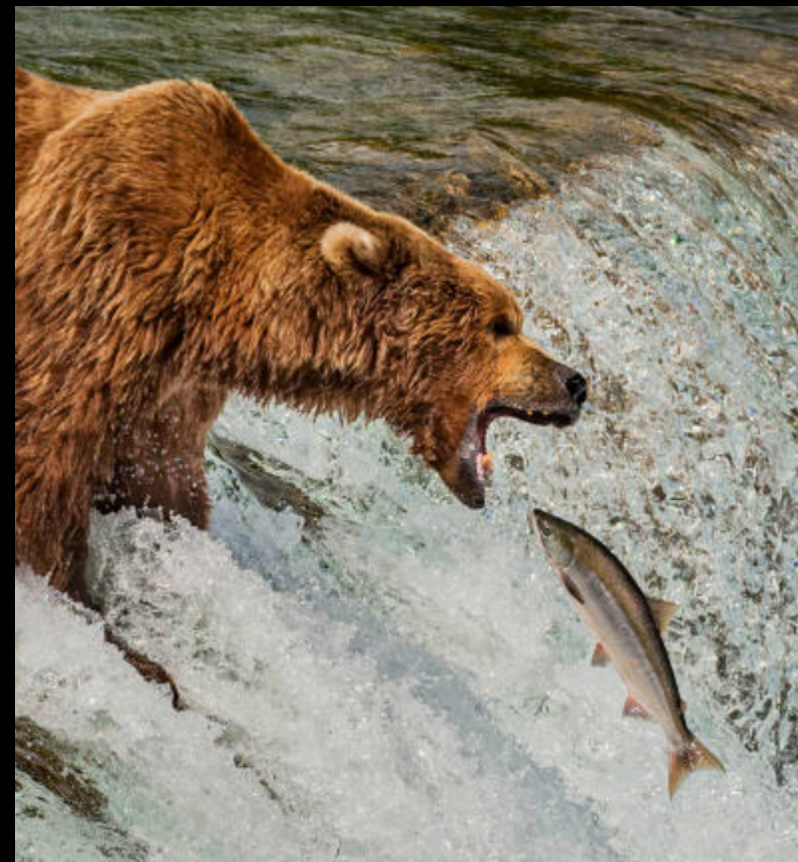▷ To help finance building the Bitoku blockchain, we've built **our own crowdfunding DApp** on Solana, called RightNow.

▷ **San Diego Auction** = Ascending Reserve Forward-Auction with seller-controlled, pre-determined, volume-dependent pricing. Similar to GALA nodes.

▷ Project-specific **tokens generated** as rewards.

▷ Full-fledged **affiliate system** with extra rewards. Can be used as extra incentive for influencers.

▷ **Countdown** to launch. **AngelLane™** incentivizes larger $$.

▷ Predetermined price increases **keep urgency levels up**.

▷ Launch on-chain projects as well as **real-life, off chain launches** (selling early access, memberships, …)

▷ For the hackathon, we've generalized ("virtualized") our internal-use crowdfunding DApp "NodeStore" to a **multi-tenant crowdfunding** DApp: **RightNow**.

Why Now

▷ The time for Web3, DeFi and the Metaverse to **break through to mainstream is now**.

▷ **Twitter & web full** of people calling for (or working on) on-chain programs that need a storage layer.

▷ **Think** Hivemapper, Web3 versions of AirBnB, Dropbox, enterprise backup/restore and many more.

▷ **The world's IT infrastructure is being rebuilt on-chain, right now**.

▷ **All of the above** needs random-access, high capacity storage, secured by a blockchain, natively connected to Solana programs.

Nothing is More Powerful Than an Idea Whose Time Has Come.
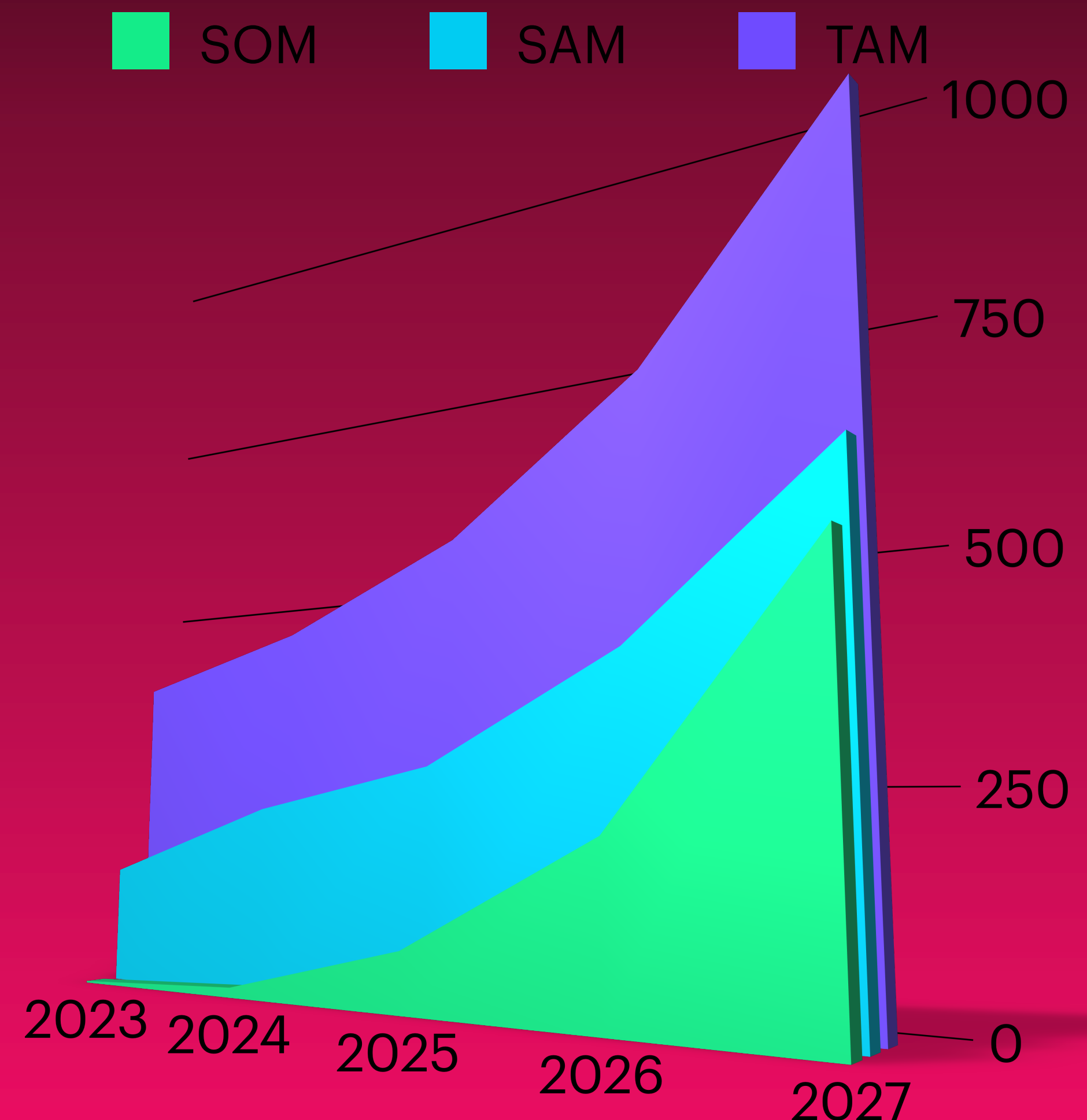
— Victor Hugo

Product (1)

- Solana Program sends read request to Bitoku via Bitoku SDK: okuRead('oku://path/to/huge/file', 17885436, 1024); Reading 1024 bytes from a start position.

- Bitoku SDK (via BitokuProgram) encodes request and places it in a Solana "reqBridge" account.

- Bitoku validator nodes monitor the bridge account, execute the request by communicating with the storage provider nodes, and places the response in "respBridge" account.

- Actual storage not on each and every validator (that's what makes mass storage prohibitive on Solana, Eth).

- Instead, data is located on a bounded number of storage provider nodes (e.g. 23) with erasure codes, supervised by validators.

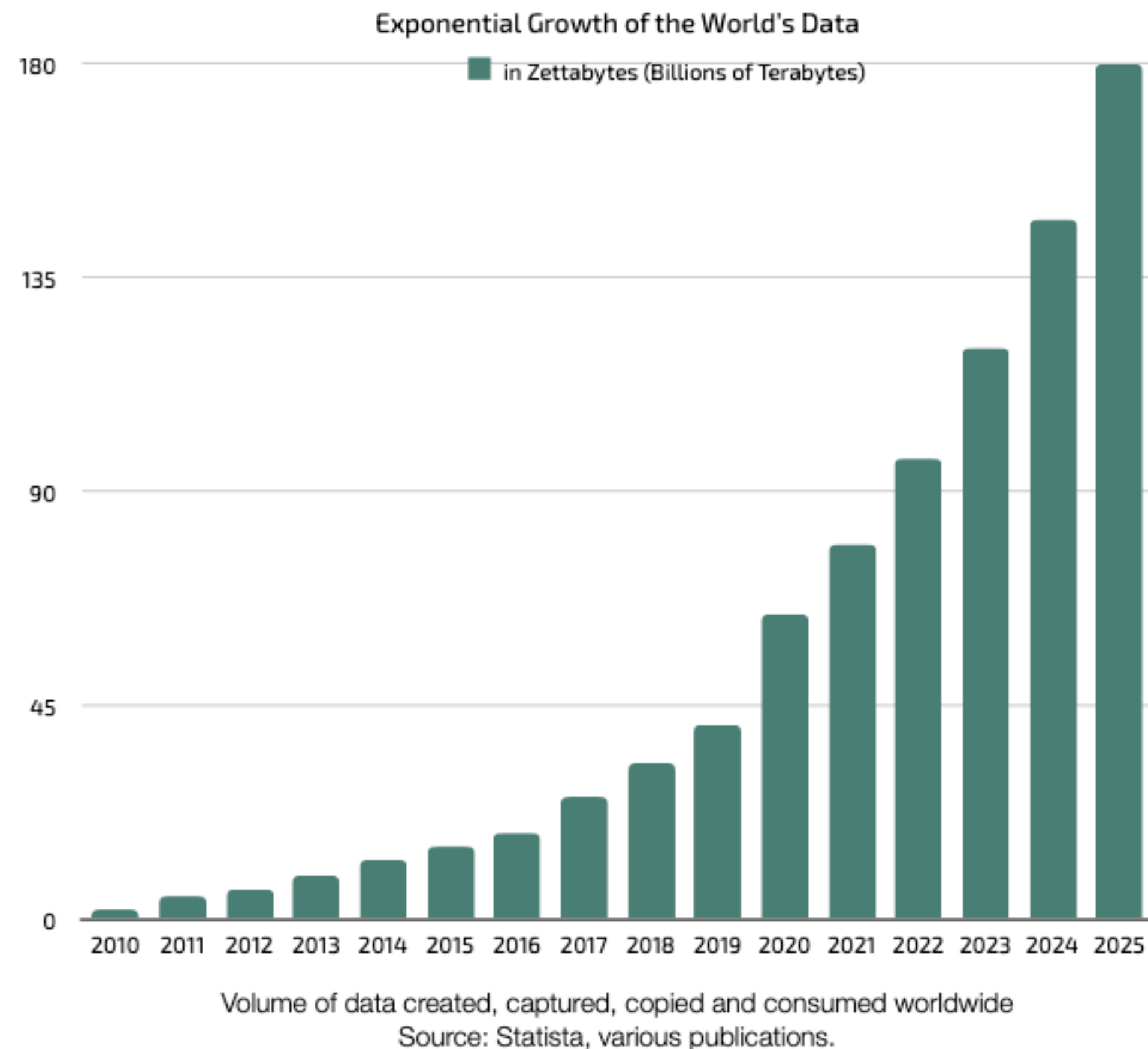- Caching nodes for speed (similar to RPC nodes on Solana).

Product (2)

- For the interaction between validator nodes & storage nodes, we will borrow from ScPrime and others.

- Instead of ScPrime's PoW, we will use PoS.

- PoH is a great innovation of Solana's (or should I say Anatoly's), so using it for Bitoku seems advisable.

- Could use a (heavily modified) fork of Solana, less BPF engine. Less TPS required, less RAM less CPU per validator.

- We are working on a (technical) White Paper (in addition to the LightPaper already released). White Paper to be published with the public node sale later this year.

- Ramping up team in San Francisco as well as overseas (Sri Lanka) as we raise funds.

- Feedback from Solana community highly desired.

Market Size

- In Cryptoland, numbers are hard to predict.

- Using market cap since revenues make little sense.

- Any smart contract can potentially benefit from a storage layer, so our TAM is the smart contract market, with a current aggregate market cap of $387B as of Aug 15, 2022 per CoinGecko.

- Our SAM is the part of the market that we can capture by persuading devs to build on Bitoku. We estimate that to be around 50% of the TAM.

- Our SOM will be dependent on our marketing activities to persuade devs to build their apps storage-enabled on the Bitoku platform.

181,000,000,000 Terabytes

Exponential Growth of the World's Data

in Zettabytes (Billions of Terabytes)

180	
135	
90	
45	
0	

2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

Volume of data created, captured, copied and consumed worldwide
Source: Statista, various publications.

The world's data is growing **exponentially**, and there is **no end** in sight. It all needs to be stored, for various durations. The trend towards **decentralized storage is unstoppable**. The worst case for humankind is it will mostly be stored at Google, Amazon, etc.

It's undisputed that there is a powerful, growing movement toward rebuilding the world's IT infrastructure on blockchain.

There are buzzwords out there like web 3.0, Decentralized Finance or DeFi, and the Metaverse.

The fact of the matter is: What used to be running the world, on centralized servers and data centers, controlled by single companies, is being rebuilt at breathtaking speed on the blockchain.
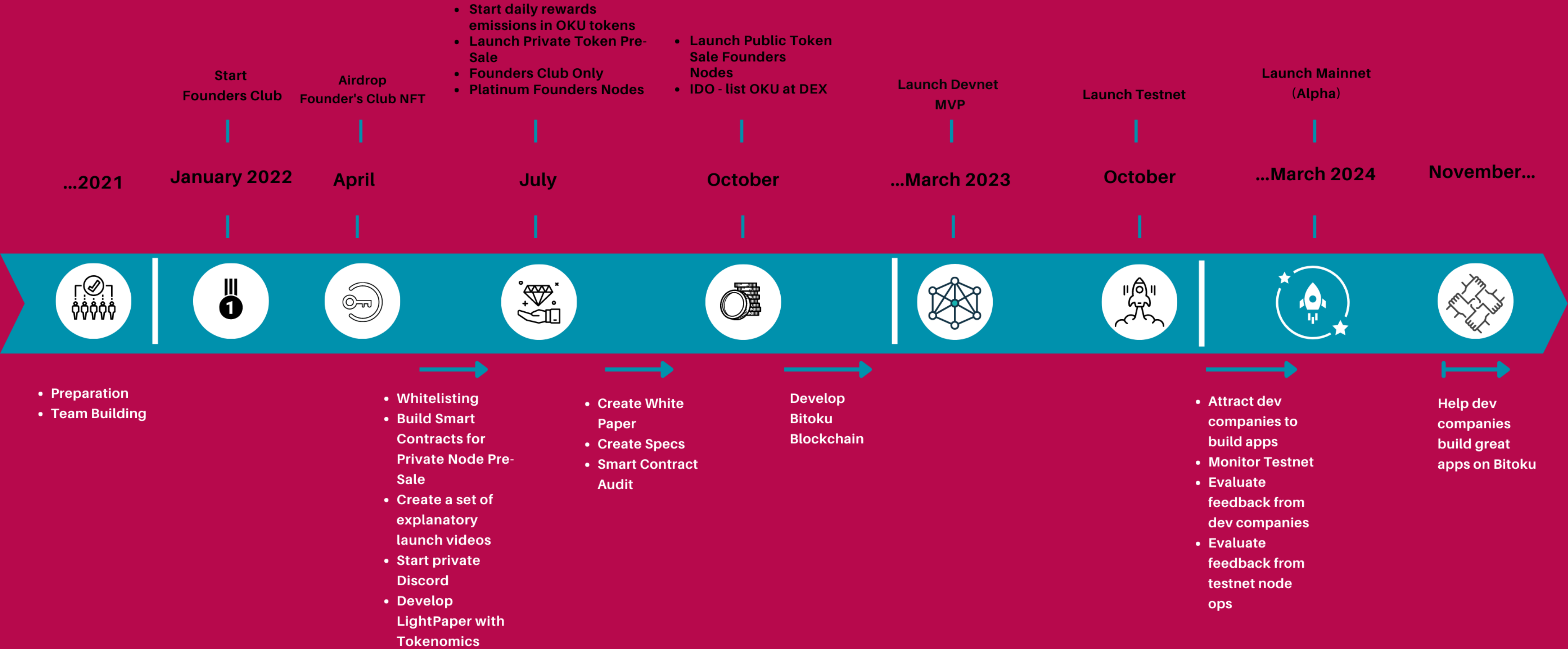
The new world is unstoppable.

Censorship-resistant. Resilient.

All of these things that are being built, including the metaverse, need a place to store vast amounts of data. What sense would it make to build these blockchain apps, designed to replace older centralized versions, and then store the data on AWS? That would make no sense at all.

It is obvious that decentralized, on-chain storage is one of the strongest trends of the next decade or so, and most probably the most massive trend of them all.

Roadmap

Bitoku

...2021
- Preparation
- Team Building

January 2022 — Start Founders Club

April — Airdrop Founder's Club NFT
- Whitelisting
- Build Smart Contracts for Private Node Pre-Sale
- Create a set of explanatory launch videos
- Start private Discord
- Develop LightPaper with Tokenomics

July
- Start daily rewards emissions in OKU tokens
- Launch Private Token Pre-Sale
- Founders Club Only
- Platinum Founders Nodes

- Create White Paper
- Create Specs
- Smart Contract Audit

October
- Launch Public Token Sale Founders Nodes
- IDO - list OKU at DEX

- Develop Bitoku Blockchain

...March 2023 — Launch Devnet MVP

October — Launch Testnet

...March 2024 — Launch Mainnet (Alpha)
- Attract dev companies to build apps
- Monitor Testnet
- Evaluate feedback from dev companies
- Evaluate feedback from testnet node ops

November...
- Help dev companies build great apps on Bitoku

The Bitoku Team

Bernie Blume
Founder and CEO Bitoku

Bernie is a serial entrepreneur. He started Antsle in San Diego, reinventing the Private Cloud. Ran Xionet in Germany for 10 years with 100 employees, helping large telecoms (Vodafone, Deutsche Telekom, Telekom Austria) developing and testing their mission-critical IT systems. Managed large software projects at Lufthansa and IBM. Contributing to Bitoku software development to quite some degree these days.

Chris Yoshida

Marketing

Has been a hero in IT sales and marketing for long time. Lastly Ingram Micro, and several Fortune 500 companies as well as Silicon Valley startups before.

Pubudu Gokarella
Development Manager

Pubudu is building up and coaching the dev team with an entrepreneurial focus. Building up our systems for social media (Discord etc), and hiring more devs. Yes, he was the one who hired Kaveen.

Kaveen Laksitha
Development

Doing the real work - developing the frontend and soon backend for our blockchain related software. He is a wizard in JavaScript/React and in the process of becoming one in Rust and Anchor. Consumes a lot of ~~coffee~~ tea.

Emil Mendoza
Anything numbers (a.k.a. Finance)

Any company will fail without a competent and motivated person in charge of finance and all other metrics. Emil has proven he is that person for startups, the federal government and Antsle. Happy to have Emil on board for Bitoku.

Jennifer Mendoza
Office Manager

Without Jen, none of us could do our job, neither in development nor marketing. All our communications and graphical design go through her hands. She's monitoring where things are going and taking corrective action. Has been Office Manager in a few startups before.

Business Model

- OKU is the currency to pay for storage on the Bitoku network.

- In the early days of crowdfunding, Bitoku Labs secures > 50% OKU supply.

- Transaction fees go to validators, Bitoku Labs, and (at a later stage) a burn scheme.

- Max supply 4.015B OKU, emitted over a period of 10 years.

- Bitoku makes money as a large OKU holder, and by running validators.

- Currently emitting 500k OKU/day to node owners and 500k/day to Bitoku Labs, + 10% affiliate rewards.

- Rewards will transition to validation-dependent as we go live.

- OKU is currently unlisted, as we have sold nodes only to a closed group.

- We plan to list OKU on DEXes with the public node sale this fall.

- "Node" model similar to GALA Games, predetermined price increases. GALA node at $100k today.

RightNow (Crowdfunding Platform) Business Model: Charge a cut of raised funds.

We might or might not launch RightNow commercially.

Traction

- Key metric for traction: Nodes sold to closed group (email list of Antsle, Bernie's previous company).

- The first 200 nodes were sold to Bitoku & team @ $50 each.

- After the 200 team nodes, sales started at $100/node. Price goes up by $100 for every 100 nodes sold.

- At launch 🚀 July 9, 9AM PDT, we sold nodes for about $310,000 in the first 12 seconds.

- These were among the most exciting 12 seconds in my life.

- Five weeks after launch, still selling ~ $5k per day from that same closed group.

- Our Discord is nicely frequented.

Success due to interest in storage tech + innovative features is RightNow (e.g. AngelLane).✅

Solid idea, solid plan, solid team + innovative marketing tech. ✅

Traction makes us confident to raise $10M+ in the next few months in public node sale using RightNow. ✅

Competition

▷ Filecoin

+ Good brand name

- No native smart contract integration, arduous deal-making, slow, compute-intensive PoST

▷ NFT Compression (Merkle Tree on chain, storage off-chain)

+ Very fast and cheap

- Not censorship-resistant, no consensus on existence, etc.

▷ Storj

+ Fast and affordable

- Decentralized, but not censorship-resistant, no consensus on existence, etc.

▷ ScPrime

+ Nice separation validator vs stoarge provider

- Slow, proof of work. No native SC integration.

▷ ShadowDrive

+ Built for Solana

- Decentralized, but not censorship-resistant, no consensus on existence, etc.

Missing: Blockchain-based solution that enables random access file I/O.

Bitoku make the "World CPU" (smart contracts) whole, giving it a WorldSSD & enabling a whole world of DApps.

Our Ask / Call to Action

Key Goals

1. Get detailed feedback, design challenge by Solana architects.

2. Win a prize to further boost street cred for public sale. Presenting in Lisbon would be awesome 🚀

3. We're on the crowdfunding track and **not** primarily looking for VC funding (have a history with VCs), but open to offers.

Buy Some Nodes

▷ Less than 200 platinum nodes are still up for grabs, buy yours at https://get.bitoku.io.

▷ Currently platinum node @ USDC 1k.

Why That's Great

▷ Public sale in the fall will be Founders Nodes, only 1/6 the rewards power of Platinum.

▷ We expect Founders Nodes to go up to ~ $3k within seconds at launch, $18k Platinum equivalent. Get it now for 1/18th the cost.

▷ Multiple node licenses need not run multiple physical nodes, just get multiple rewards.

▷ Decentralization will still be great with 51,400 nodes to sell.

▷ Secure your stake in the project now.