

DABBA WHITEPAPER



DRAFT 1 - Sep 26, 2023

👋 Dabba.network

Dabba in Hindi = Box in English

Introduction

- ⓘ The Dabba network is a low-cost, fast, decentralised wireless network that is owned and operated by its users.

Deploying a large-scale telecom network is a capital, technology and labour-intensive job. While traditional telecommunications providers have established functional networks and offer connectivity services, this achievement has relied heavily on subsidies and governmental support.

These centralised networks are subject to monopolization by a select group of entities. The world needs a secure, affordable, scalable and decentralised wireless communications network that is built, owned, and operated by its users.

Recent DeWi initiatives have demonstrated that crypto-enabled incentives coupled with a decentralised governance model can be harnessed to revolutionise the development and operation of physical world communications networks.

The Dabba network uses a token incentivized protocol with the objective of driving capital into decentralized connectivity projects. The network's success hinges on its capacity to provide reliable, fast, and cost-effective connectivity through its decentralised Dabba installations, thereby positively impacting the lives of millions while promoting community ownership of the connectivity infrastructure.

Ultimately, the Dabba Network aims to contribute to social and economic development by providing a cheaper supply of internet bandwidth to consumers and promoting sustainable connectivity solutions for the public good.

👏 Milestones

Milestone	Date
Tokenomics draft publish	25 September 2023
Sales open	01 October 2023
Dabba Lite India deployment begins	15 October 2023
Dabba Lite worldwide shipping begins	01 November 2023
Dabba Pro worldwide shipping begins	01 December 2023
Dabba Laser V2 shipping	H2 2024

*Dates may be subject to change

👏 Dabba Token

- ⓘ The Dabba token is an incentive mechanism to deploy low cost decentralized wireless networks.

Introduction

Dabba tokens are the mechanism used to transact, reward, coordinate and incentivize stakeholders in the network. *Tokenomics paper coming soon.*

Tentative Rewards and Utility structure

Text	Description
Data consumption	Tokens will be rewarded when data is consumed
Dabba cloud	Tokens will be rewarded when the Dabba cloud app is used
Genesis	Tokens will be rewarded during a genesis period
Data credits	Purchased by end users when consuming data
End user	Reward End Users for utilizing the network
Operator	Reward for providing deployment & management services
Host	Reward Dabba host for providing a physical location to install the hardware
Backhaul	Reward Dabba backhaul provider for provisioning the bandwidth
Foundation	Reward Dabba foundation/Dao for providing governance
Developers	Reward Dabba devs for building software on the platform

Ecosystem stakeholders

Entity	Role
Dabba Inc	The first builder of Dabba hardware, software, deployment & distributed ledg based digital infrastructure
Host	Location owner where Dabba is deployed
Owner	Individual or institution who has provided the capital to deploy
Backhaul provider	One who pays for the backhaul connectivity to the Dabba
Operator	One who deploys & services the hardware
Mapper	One who verifies the Dabba periodically with a wifi app
User	One who uses the data by burning data credits
Foundation	Creator of DBT, a crypto token to incentivise early adoption, network development, maintenance & network growth.
Dao	Responsible for governance of Dabba network
Developers	Developer building Dapps for the Dabba Pro

Go to market

Market overview

With the consumer electronics showing clear early signs of willingness to adopt DePIN infrastructure, there is a unique opportunity to build a decentralised global data-first telecommunication network. We believe that it is helpful to segment the world into two types of markets; Developing and Developed markets.

Developed

We define a developed market to be one where internet penetration, both mobile and fixed broadband, is greater than 75%. These markets also tend to have a high per capita income. The US is an example of a developed nation.

Developing

We define this as a market where either mobile or broadband internet access is lower than 50% and the per capita income is relatively lower. India is an example of developing nation.

Same difference

While the goal and incentive of creating a decentralised internet may be common for users of all markets, the needs of each market differ because they are different stages socially as well as economically. Using a rough analogue to Maslow's hierarchy of needs - Developed markets care more about privacy, freedom and ownership of the internet whereas Developing markets are still getting access to the internet itself, their needs are focussed around pricing and availability.

These differences extend to geographical features as well which affect the kind of networks and equipment that can be deployed thereby affecting the price point of the hardware required. Market dynamics play a strong role as well, there is also often greater room to grow in developing markets due to stark differences in population sizes. Also a key point worth noting is the ability for a customer to pay for services in each of the market - this has a strong impact on the scale required in each market for a sustainable network.

Developed markets provide the advantage of early adopters and access to essential capital, while developing markets offer substantial network usage and a steady stream of revenue, ensuring the sustainability of this virtuous cycle. Our approach unites developed and developing markets to create a balanced path for a global data-focused network.



🌟 The India market

Summary

The Indian telecom market is the second largest in the world. It is growing rapidly and has much headroom for the next few decades. The steady rising demand for data consumption deserves its own equivalent of Moore's law.

The key metrics

Text	Quantity
Population	1.4 billion
4g subscribers	750 million
5g subscribers	10 million
Broadband subscribers	33 million

ⓘ There is a tremendous amount of room for growth for broadband using wifi

Notable data points

India currently has the world's second-largest subscriber base of 1.17 bn.

India is aiming to manufacture mobile phones worth \$126 Bn by 2025-26.

The average monthly data consumption per wireless data subscriber has also increased by 22,605% to 16.40 GB in June 2022 from 61.66 MB in March 2014.

As per GSMA, India is on its way to becoming the second-largest smartphone market globally by 2025 with around 1 Bn installed devices and is expected to have 920 Mn unique mobile subscribers by 2025 which will include 88 Mn 5G connection

India added over 500 Mn new smartphone users over the last decade. We are expected to have 850 Mn smartphone users by 2026, representing ~55% of the total population.

Average revenue realization per subscriber per GB wireless data reduced to Rs. 10.29 in June, 2022 from Rs. 268.97 in December 2014, a reduction of more than 96.17%.

The opportunity



- Greenfield market for broadband, wifi, backhaul and 5G
- Highest mobile data consumption in the world at 26GB per month
- Massive young data hungry population almost doubling consumption year on year.

The Indian government liberalised and opened up the telecom market in the early 90s. In the nearly 30 years that have passed since, the net result is that only about half the Indian market has a 4G internet connection. The remaining other half of the population that does have access is consuming data at an ever increasing rate straining the system. India already has some of the lowest prices of data in the world and there is immense pressure for prices to go even lower.

At only 8% penetration for broadband internet - there is a tremendous amount of room for a low cost data network starting with Wifi. Hundreds of millions of loyal, young and long term users are awaiting access at a reasonable price.

Opportunity areas for growth

Major metro / dense urban centers

In cities like Bengaluru, there is massive underserved demand in middle and low income groups. Dense markets and micro-retailers benefit from stable internet access for payments and orders. The ever expanding outskirts of the cities are deeply underserved as well.

Tier-2 and Tier-3 cities

Ecommerce was first adopted by the major metros and then spread to smaller towns and villages. Broadband internet wifi access will follow the same path, there is vast untapped demand in Tier-2 cities across India. The next Zoho will come from one of these cities.

India's software industry is only going to grow

India will continue to power a significant amount of software development for decades to come which in-turn will require greater connectivity

India electronics manufacturing is on the rise

The government backed production Linked Incentive (PLI) Scheme worth \$1.5B for manufacturing of telecom and networking products. Incentives worth more than \$600M have been earmarked for the Design Led Manufacturing Scheme of the existing PLI Scheme.

Prime Minister Wi-Fi Access Network Interface (PM-WANI)

Provision of public Wi-Fi service through Public Data Offices spread across the country to accelerate the expansion of broadband internet services.

The challenge

- ① Networks are saturated, telcos are in a lot of debt and rolling out broadband networks has traditionally been extremely expensive. At this rate, it will take another 30 years for India to reach penetration rates comparable to Developed nations.

The challenge for broadband internet distribution

The 33 million broadband internet connections are mostly served by the mobile telcos using the infrastructure they have laid down for their mobile networks. There are tiny regional players holding less than 0.5% of the market each. The core backbone network of most ISPs around the world for an urban environment is deployed as follows:

1. A starting point of their network, usually at the edge of the city wherein their network connects to national long distance underground optical network.
2. Starting from the edge of the city they deploy concentric circles or parallel lines of underground fiber separated by a few streets for high redundancy.
3. Routes of lines are optimized to go below where most customers are expected to be in dense urban and residential locations or downtown areas.
4. PoPs or Points of Presence are above-ground switching locations that then go the last mile to the customer's premises - either underground again or overhead aerial optical cable in developing nations.

This process is time consuming and expensive

1. Digging trenches for laying underground cable is extremely expensive, it can hit tens of thousands of dollars per kilometer.
2. Getting permits to dig is expensive
3. Local politics plays a huge role
4. It is a multi-year endeavour and only gets more expensive over time.
5. Huge carbon footprint
6. Nevermind the operations, service and customer care infrastructure and manpower required

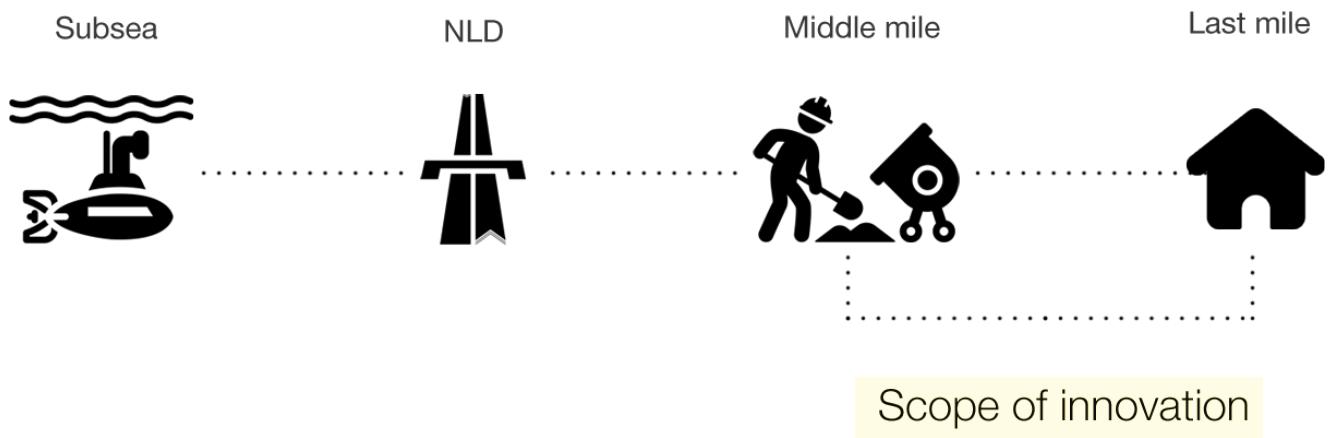
All of these factors contribute to a challenging market environment to build a healthy and sustainable network that can scale to a billion users.

The solution

- ✓ The Dabba network increases the rate of internet adoption in India by innovating at the middle and last mile combined with a tech stack and finance mechanism to create a flywheel of network expansion

A primer on how the internet is delivered to you

Undersea cables connect to underground cables below highways or railways and then continue under our city streets to our homes and offices or even mobile telecom towers to further distribute as 4G or 5G.



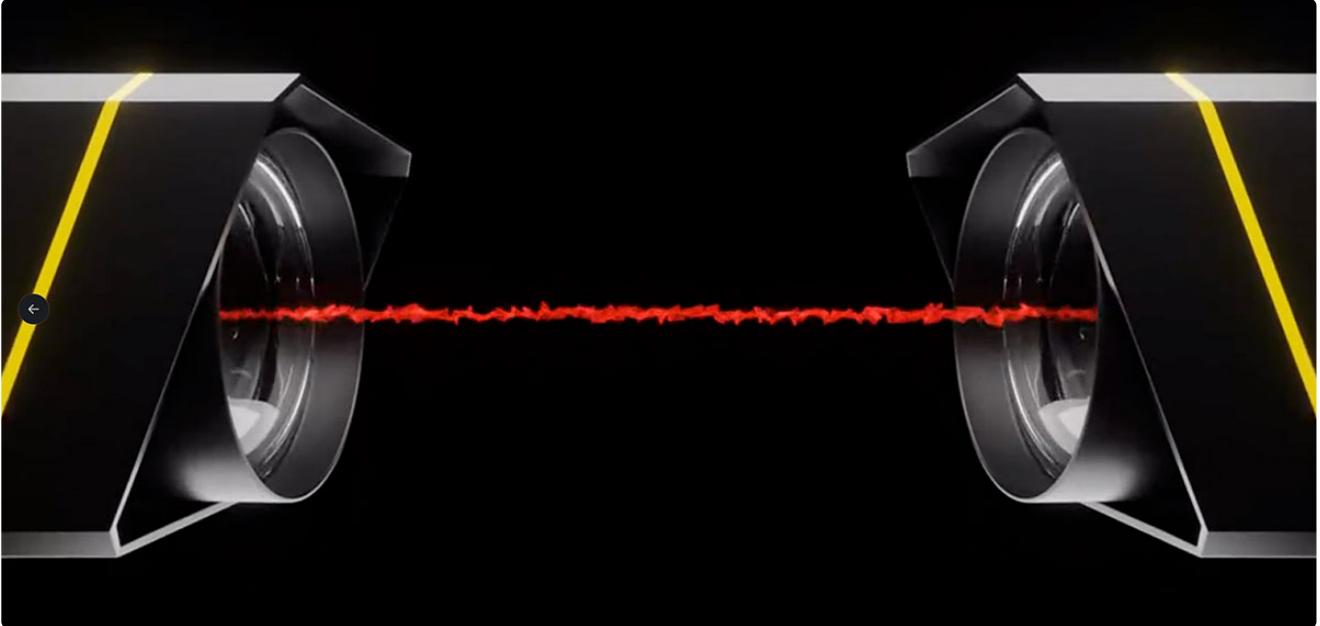
Key problems to be solved

- Lower the distribution cost of broadband internet through wifi
- Create a sustainable economic structure for growing the network rapidly

Lowering the distribution cost of the internet

The Dabba network focusses on the last two legs of the internet distribution journey. The Middle mile and the Last mile. The middle mile is defined as the underground optical fiber in our streets that form a core backbone network and the last mile is defined as the equipment in the final consumer's end point premises. By innovating in these areas, we hope to create a low cost wireless data network that is affordable to everyone in India and is accessible everywhere.

Lowering the capex of the middle mile



Woo! Lasers!

As laid out previously, the cost of deploying a middle mile core backbone is [prohibitively expensive](#). The Dabba network focusses on bringing to market innovative deployment processes and hardware that dramatically lower the cost and time taken to deploy a citywide core network by a factor of 20x. The Dabba network uses [lasers](#) instead of expensive underground fiber to revolutionize broadband access networks resulting in the acceleration of internet access. The Dabba network will be a grid of lasers across the rooftops of Bengaluru to serve as a core network.

This reduction in deployment and operational costs can be passed on as savings to customers in the form of much lower prices since there isn't any heavy capex to make up for. This method of deployment with lasers also has the advantage of decreasing over time in cost with volumes unlike the traditional method of deploying underground fiber which will get more expensive as cities grow and become denser.

Increasing the efficiency at the last mile



Public wifi and limited token mining

The efficiency of the last mile at the customer's premises can be vastly improved in a number of ways. First, each wifi router can broadcast a public wifi signal along with any other configured private network. Second, with a modest upgrade to hardware, the wifi router is capable of mining a limited set of potentially useful DePin tokens.

This means that the last mile utilizes bandwidth more efficiently through greater distribution via public wifi and greater value is generated via tokens through useful DePin projects. At scale, millions of WiFi router acting as crypto nodes will offer a truly decentralized set of services like VPN, Adblock, etc.

Increasing efficiency at the edge also will have impact beyond just content consumption, it will result in a greater volume of payments at retail locations and help launch the next great startup.

DeFi and DePin incentives with lower capex

By using crypto and the powerful DePin incentives, the Dabba network aims to drive capital towards the deployment of this new and improved middle and last mile. By lowering the cost of capex and helping subsidize the initial bootstrapping of the network, the Dabba network aims to start a sustainable flywheel of network expansion.

Better hardware and software tools for existing players and community.

The pareto curve of providers in the broadband space is steep and long. While the major telcos dominate more than 96% of the market, there are literally about 30,000 small time local cable tv and internet service providers in tier-2 and tier-3 towns, that have a population of more than a million each, that would greatly benefit with access to capital to expand their networks as well as tools to manage their operations. In the same manner that Ecommerce spread across india once logistics last mile networks were built out, the same will happen with internet access. There are a billion internet users in the small towns and villages of India.

India solution



Lasers

+



Routers

+



Tools

+



DePin

DePin incentives with better hardware, software and deployment process

Deployment strategy

Introduction

The go to market strategy will start with a centralized managed deployment approach and then gradually scale to a decentralized process. [Dabba Inc](#) has five years of experience in managing and deploying internet service in India. Dabba Inc will be the first operator on the network and will be responsible for identifying, acquiring and delivering services to customers in the India market.

Last mile wifi deployment - [Dabba Lite](#)

Pay as you go public network

Given the low per capita GDP, Indian customers prefer prepaid services in smaller chunks rather than post-paid services. This strong preference is clearly illustrated by the fact that 98% of mobile phone subscribers run on prepaid plans vs. post-paid plans. There is a huge gap in the broadband market wherein all broadband plans are post-paid. This is a giant opportunity to be taken advantage of.

The approach will be to deploy up to 100,000 hotspots in Bengaluru first and then scale out to the more than 300 cities in India that have a population than 1 million people. The intent is also to scale to as many developing nations as possible using the lessons learned while deploying in India.

It is useful to divide the market for wifi into two broad categories; Residential and Commercial.

Residential wifi deployments

There are three types of potential residential users that are currently underserved and will benefit from a low cost data network:

1. Low income / middle income households

This cohort of millions of customers has been underserved because current home broadband plans are anywhere between 3x-5x the amount of a mobile phone connection and additionally requires the purchase of a wifi router. This makes the total amount required to get a broadband connection too expensive for these customers. Furthermore, these customers find it difficult to reliably pay for a post-paid plan and would welcome a prepaid service if available.

The Dabba network would provide a pay as you go service that comes with a free wifi router allowing this segment the flexibility and lower up-front cost to start their internet access journey.

2. Coliving / Dorms / PG properties

Shared / managed accommodation is a massive market in Bengaluru. Given the demographic of India where more than 55% are under the age of 30 and the rising trend of people moving into bigger cities looking for a better life means that most immigrants to the big city start by living in a dorm or some sort of other shared accommodation. These properties tend to be multi-storey, multi-dwelling units with semi-long term stay occupants and is called home by millions of young people. Traditional ISPs do not service this market as they require individual KYC per tenant and they have a policy of a single connection per user.

Owners and operators of these shared accommodations have a hard time providing internet access reliably to their tenants due to having to manage multiple ISPs per building, installation and maintenance of networks as well as billing collections.

The Dabba network would provide them much needed internet access with a low cost managed service.

3. Outskirts of the city

Residents in the outskirts of Bengaluru have a hard time getting reliable high speed internet access due to the fact that the city expands faster than its basic infrastructure can handle. Either fiber is not present or the only service provider in the area is a small operator with limited bandwidth and capability leaving residents with little or no choice. It is not uncommon to find massive apartment buildings with thousands of residents being serviced by a sub-par network operator that has a monopoly in the area due to local influence.

The Dabba network would use its lasers to increase backbone coverage in these areas and bring high speed internet directly to consumers by providing more choice and a better service.

Commercial wifi deployments

First, a little history on the digital revolution in the Indian retail and commercial market. In the last decade the powerful combination of UPI payments and QR codes have revolutionized the way Indian retailers do business by making digital payments easy.

Retailers and businesses of all sizes would benefit from a low cost data only network in a format that is currently not being serviced by traditional ISPs. If internet service can be delivered in a prepaid satchet sized pay as you go model, retailers would welcome it because it can help them accept digital payments, provide internet access to customers as well as tap into more advanced use cases like analytics, logistics, book-keeping and DeFi.

It is helpful to divide the commercial market into a series of smaller markets:

1. Micro retailers / Kirana stores

These are the backbone of the Indian economy. Representing over 90% of all FMCG products sold in the country, there are more than 10 million micro-retailers in the country. These stores require good connectivity for digital payments as well as booking keeping and logistics.

2. Dense market areas

Most Indian markets are dense, narrow and immensely crowded having been built over decades or even centuries in some cases. The solid buildings that are tightly packed together make it hard for mobile signals to penetrate into the interior of stores as well as basements. Wifi is an excellent solution for these environments to deliver stable and reliable access that can allow business to accept payments from customers as well as provide general internet service.

3. Large businesses and brands

FMCG brands and other businesses that have a large consumer presence have a strong desire to enable internet access for customers in order to engage with them. Dabba Inc has historically seen strong demand from large consumer brands willing to sponsor limited internet access in return for brand engagement.

Other enterprises face a different issue. If a business has a large number of physical locations across a given city, the management of internet access to these locations is an administrative burden. They have to deal with multiple Internet service providers in different geographics, different SLAs, different pricing and most importantly different levels of customer service. The Dabba network offers a single service provider across as many locations as necessary along with the support required to bill and maintain these locations.

Working with local operators and bootstrapping a gig economy

Dabba Inc works with all local Internet service providers to deliver the last mile connection. The goal is to introduce them to the Dabba network as a common platform for customer acquisition, software services, customer care, hardware and finance.

In the same manner as AirBnB and Uber created a shared economy around housing and transport - we believe there is a massive opportunity to create the same in the connectivity space. We are working towards a set of tools and services that allow small operators or individuals to create and deploy connectivity networks in a distributed manner.

There are 30,000 local cable small time operators in India that service anywhere between a few hundred to a few thousand customers each that would benefit greatly from superior software tooling, hardware and financing. These cable operators used to be the backbone of television and cable service a decade ago. With the advent of satellite tv services and internet, they see their market getting eroded by the big telcos. If they are provided with the right set of tools and training, they can play a vital role in dramatically increasing their subscriber base and thereby the Dabba network.

The strategy is to nail the requirements and operational process across multiple ISPs in Bengaluru and then provide these tools first nationwide and then across developing nations.

[Learn more about our low cost router](#)

Laser deployment

Dabba Inc will deploy a city-wide laser grid that is able to serve as a core backbone network for the low cost data service. Dabba Inc has a partnership with tower companies as well as access rights to hundreds of rooftops across Bengaluru. The lasers will be installed on rooftops and telecom towers to create a redundant network.

Backbone / core network deployment

Lasers will be placed in locations that have a high density of Dabba network hotspots so as to dogfood our service first and then expand to other areas. The goal is to deploy roughly 300 lasers across the city to create a backbone grid. We will test reliability, uptime as well as self-healing and self-aligning features along with creating a playbook for rapid deployment of such a network.

Provide backhaul connectivity for existing telecom towers

There is a strong demand among telecom tower operators for high bandwidth backhaul connectivity to towers as less than 30% of 4G towers in India are fiberised. The current business model of existing tower operators is to provide the physical location as well as power and security services. Tower operators are actively seeking to improve their towers to a 'smart tower' model wherein they seek to deliver bandwidth along with their existing services. As most customers of tower operators are the large telcos, we anticipate this area to have strong growth.

5G backhaul

As the number of 5G cells increase, the need for backhaul grows. We anticipate deploying lasers as a backhaul solution to 5G small and large cell installations. There are interesting opportunities for a 5G rollout as well.

Leased lines

There are a fair number of customers who require high speed and dedicated low latency lines either to specific data centers or even between multiple premises of their own. This is a small but lucrative market we intend to pursue.

Backhaul for ISP partners

Along with providing software tools and services to our ISP partners, our goal is to provide them with lower cost backhaul as well in the pursuit of lowering their costs and thereby lowering prices for customers as well.

Personal deployment

There are many one-off installations like connecting a lake cabin or crossing a river that many individuals or enterprises may wish to deploy. We intend to provide as much support to this market as well.

Lasers will be placed in locations that have a high density of Dabba network hotspots so as to dogfood our service first and the goal is to learn scale deployment in a large tier-1 city like Bengaluru and then rapidly deploy across India and then to developing nations worldwide.

[Learn more about the laser](#)



North America, EU & AU

- ⓘ This market already has good connectivity in broadband and mobile internet penetration. The focus of the Dabba network in this market is on decentralization, compute, storage, AI, privacy and wireless connectivity.

Key metrics

Population	340 million
Broadband penetration rate	> 90%

Market summary

The United states and similar developed markets now seem to be entering into the second stage of internet connectivity. Now that a sufficiently high rate of the population has reasonable internet access, the focus of the market seems to be shifting into moving beyond basic connectivity.

Ownership of the network appears to be presenting itself as the next high order bit. DeWi and DePin projects have mushroomed successfully demonstrating the desire in the market for decentralized ownership of core digital infrastructure.

DePin project	Area	Est. units
Helium	Wireless	1M
Hivemapper	Mapping	25K
Geodnet	GPS	5K
Flux	Cloud	12k
Storj	Storage	25K
Dimo	Mobility data	23K

The opportunity

- Greenfield market for multi-token/multi-use DePin device
- Evolve the wifi router category into smarter devices

Most DePin devices today are single use

- There is an opportunity to evolve the category of DePin devices to allow for Multi-use hardware devices.

The contemporary DePIN landscape predominantly consists of single-use devices, each designed to cater to a specific application. At present users pay for the individual DePIN hardware – usually in the hundreds of dollars for each device to receive steady income stream managed and maintained in different token denomination & different wallets across multiple chains.

While these projects have demonstrated their value and potential in specific applications, we envision a future where the next generation of decentralized computing and connectivity devices can rise above this limitation. Much like mobile phones went through an evolution of increased capability with the addition of new hardware like gps, cameras - DePin hardware should evolve along the same lines.

With minimal additional effort, more hardware can be integrated into the same product. For example, it is possible to integrate wifi, gps, lorawan, 5g into gpu into the same device allowing for a more efficient use of space and time.

DePin project	Hardware used for single purpose
Helium IOT	LoraWAN
Helium Mobile	5G
Hivemapper	Dashcam
Geodnet	GPS

The Wifi router market

Wifi routers occupy a unique space in our homes, offices, and retail stores. They connect all our devices and serve as a gateway to the internet. They usually have a stable internet connection and a person responsible for when it goes down.

Despite this central position in our ecosystem of personal electronics, the humble wifi router has largely led a placid and mostly unchanged existence. Speeds have improved reasonably as well as advancements in consumer mesh devices that can cover a large home. Meanwhile, our phones, bluetooth speakers, televisions, gaming consoles, and even fridges have gotten dramatic upgrades in computing power, storage, and memory - making these devices more useful by allowing them to run multiple programs at the same time.

Category	Price	Functionality	Market Share
ISP provided router	Bundled	Wifi / TV / Landline	NA
Average router	\$10 - \$100	Wifi	95%
Mesh router	\$120 - \$700	Wifi - Better range	5%
Gamer router	\$250 - \$650	Wifi - Priority queues	1%

 You'll note the conspicuous absence of a premium segment

We believe that there is room in such a large market for a Pro router device that is capable of running multiple applications and serving as more than just a wifi router.

The homeserver market

There's tons of free software out there that you can run that will give you tremendous value. Self-hosting is the practice of hosting applications on your own server of devices. The benefit of this is that you have complete control over the software. An example of this is running wordpress to host your website or blog.

Self hosting allows you to save money on software subscription services as well as unlock power tools to boost the productivity of your application while maintaining the privacy of your data. This is a github page of hundreds of self-hosted open-source projects anyone can use - <https://github.com/awesome-selfhosted/awesome-selfhosted>

Home labs or home servers are for more advanced users that require high amounts of storage or compute or even multiple devices to make their setups work. The issue is that its too geeky for the average person to use, this needs to be fixed and bought to the mainstream user. There's an opportunity here to aggregate all the cool apps here and make them simple and easy to install and manage and secure.

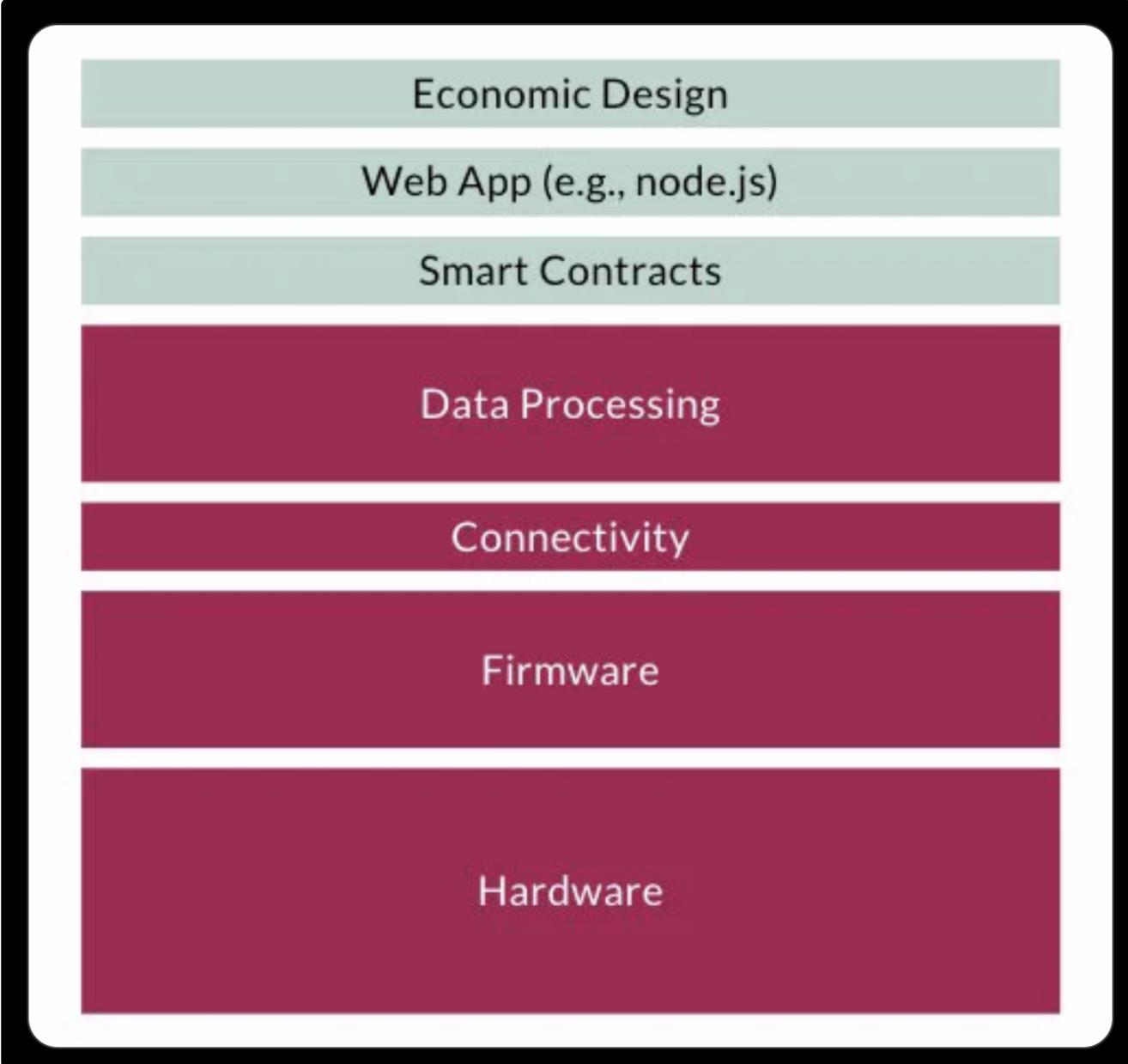
The approach

- ① The Dabba network incentivizes the deployment of:
 - Hardware platforms with multiple real world uses
 - Capable of mining multiple tokens
 - Packaged in an appealing form-factor
 - Priced reasonably
 - Easy to for consumers to use
 - Easy for developers to build for

Launching a DePin project is hard

Launching a DePin project is hard! The requirements of handling 7-layer tech stack usually indicates significant initial capital, high costs of experimentation/exploration, and slow go-to-market. This is the reason we see limited number of DePIN projects on the market now.

If devices on the DePin network are capable of offering broad hardware with an accessible software stack, then this will accelerate the adoption of multiple crypto projects and accelerate the adoption of DePin as broader use cases will be available to newer types of potential users.



<https://twitter.com/Raullen/status/1661071151819554816>

Dabba Pro

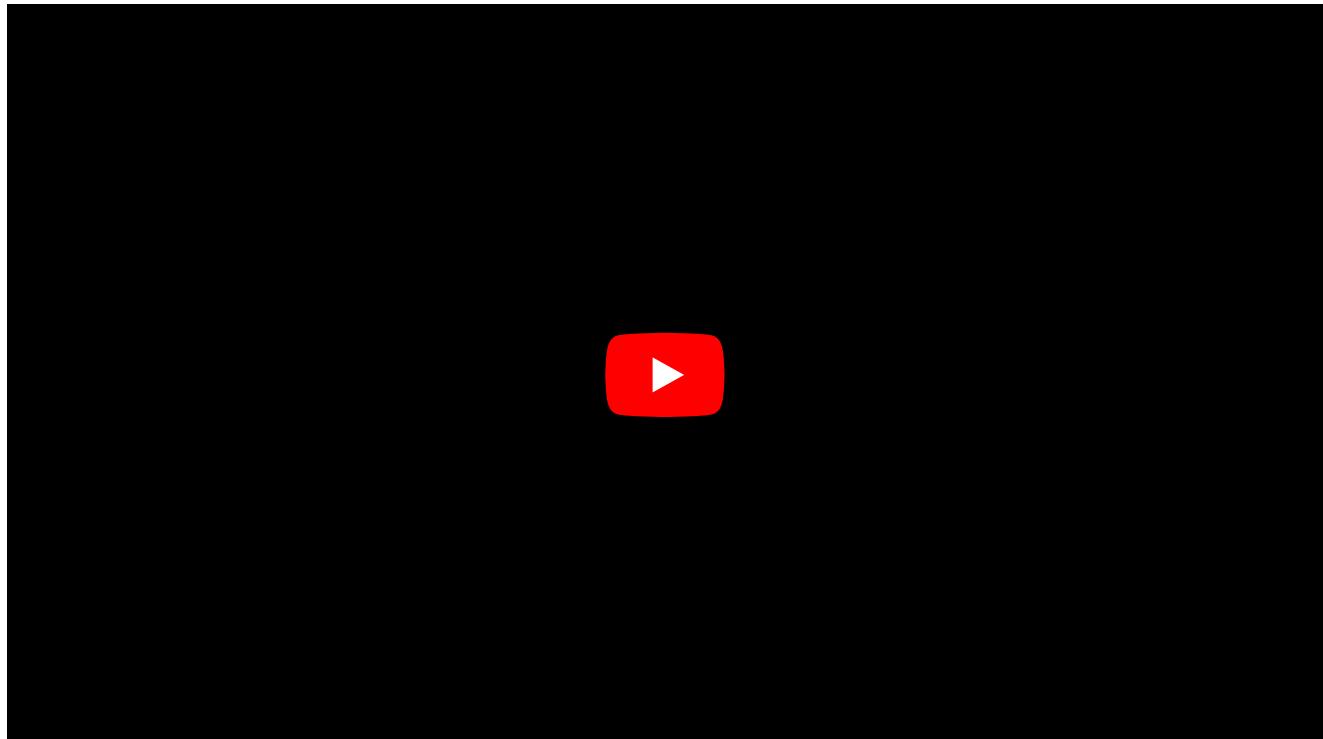
The Dabba Pro is a decentralized internet node in a compact form factor that can run multiple DePin projects and has multiple hardware capabilities like Wifi, 5G, GPU, storage and compute. It is designed to be easy to use and to be installed in homes, offices and retail locations. The Dabba Pro comes with a Dapp store that will serve users crypto projects in a familiar app store style app and offer a single click install experience.

The Dabba Pro is positioned as a wifi router capable of doing more than just wifi in order to expand the audience that would be interested in DePin projects but are unaware of any. Positioning the device in a familiar manner allows consumers to relate to it on familiar terms and then learn about its advanced features.

The Dabba Pro is capable of running a large number of popular crypto projects, thousands of existing open source projects and offers developers simple and powerful tools to port their projects onto the Dabba.

Some of the tokens that the Dabba can run are listed below:

App	Hardware used	Token mined
Helium	Wifi Radios	MOBILE, IOT, WIFI
Mysterium VPN	Bandwidth	MYST
Dabba cloud	SSD, CPU	DBT



Filmed Oct 22 - some things may be out of date

Deployment strategy

Anyone, anywhere in the world can purchase a Dabba pro and install it in their home, office or wherever.

Multi-token is the killer app

- ① The hardware on the Dabba network is designed to support as many tokens as possible

Introduction

At present users pay for individual DePIN hardware devices – usually in the hundreds of dollars for each device to receive steady income stream managed and maintained in different token denomination & different wallets across multiple chains. The challenge is *mass adoption*. How many individual hardware devices can the average user deploy and manage?

The Dabba network aims to make it simple for users to mine multiple tokens in one place. This approach makes it easy to rollout DePIN infra otherwise an [expensive, cumbersome & complicated network](#) to rollout.

The hardware on the Dabba network is designed to support as many tokens as possible. The killer app on the hardware is managing multiple tokens in a single smooth interface. This means that the process and manner with which tokens are hosted on the hardware should be smoothly onboarded and interfaced. The goal of the Dabba network is to participate respectfully in as many communities as possible to work towards bringing their token to the Dabba hardware.

Open source projects and crypto projects have a variety of governance and participation structures that will have to be interfaced with as tokens are onboarded.

Helium HIP-64 - Wifi SubDao

The Dabba Pro and Dabba Lite are capable as serving as [Helium](#) wifi hotspots along with being able to run other applications. The Dabba foundation will do its utmost to work with the Helium community on a Helium Improvement Proposal to create a framework that is satisfactory to all.

The goal is to learn from this process and establish a framework to work with communities of other projects in the future.

Get Involved

Build the network

- ⓘ Help build the Dabba network with a Dabba lite or Dabba Pro.

Dabba lite

A low cost wifi router that mines limited tokens. Help bring millions of people online by having the Dabba lite deployed and managed in India or deploy it yourself and bring connectivity wherever you are.

Dabba Pro

A powerful wifi router capable of mining multiple tokens, running multiple apps, training AI's and hosting crypto nodes.

Help build the decentralized internet.

Developer platform

A developer platform is important to bring as many projects on board to the Dabba network as possible therefore the goal is to have the best developer experience possible.

- **New market:** Developers can create and deploy their apps on the Dabba platform, and make them available to users. These applications can be installed on individual routers, allowing end-users to consume the apps as they wish.
- **Early access:** Developers have remote access to routers, enabling them to interact with their applications on the actual hardware even before it ships. This ensures that they have all the necessary tools to build, test, and optimize their creations.
- **Easy deployment:** The app store leverages Docker, allowing developers to write applications in their preferred framework and language without any restrictions. Docker's ability to containerize code ensures compatibility and flexibility, breaking down language barriers and enabling seamless deployment.
- **Focus on Innovation:** A web3 platform offers the foundational infrastructure needed for developers to create innovative digital applications without having to worry about building the underlying architecture from scratch. This allows them to concentrate on solving unique problems and generating creative solutions.
- **Censorship Resistance:** Since there is no centralized authority controlling development, DApps are resilient to censorship. Developers can freely create and deploy applications without fearing restrictions or interference from a central governing entity.
- **Enhanced Security and Privacy:** Without a centralized entity exerting control over the data, the concept of a "Big Brother" overseeing and controlling personal information is eradicated. Leveraging the robust capabilities of blockchain technology, coupled with sophisticated cryptographic methods, further fortifies the overall security architecture. This decentralization not only assures individuals of their privacy but also constitutes a significant advancement in securing information integrity and autonomy in digital interactions.
- **Community-Driven Development:** This can foster greater transparency and collaboration, and lead to applications that better reflect the needs and wishes of the end-users.
- **Potential for Disruption:** Developers can use DApps to create platforms in sectors that have been negatively impacted by centralization issues. This allows them to disrupt established models and introduce more equitable and transparent alternatives.

Start your developer journey [here](#)

Hardware



Dabba Lite

Low cost wifi router

Introduction

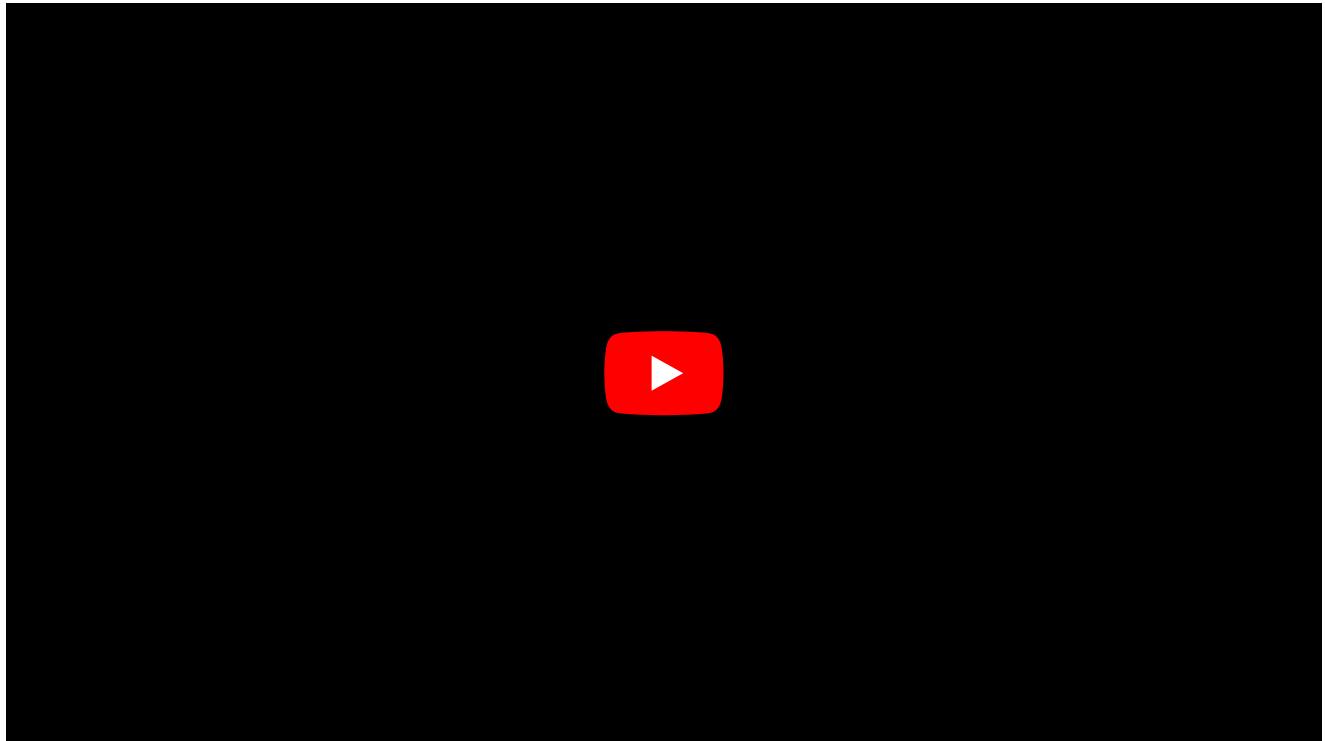


The Dabba lite is designed to be a public wifi router that lowers the cost of data access by offering public wifi services as well as mining a limited set of tokens by running various crypto apps. It is a incrementally more powerful than a regular router so as to be a more efficient use of space and time. It is designed for indoor use and supports wifi 6.

Anyone, from anywhere in the world can purchase a Dabba inc and deploy it themselves or they can have it deployed and managed by Dabba Inc in the Indian market on their behalf.

Managed deployment

Introduction



Dabba managed deployment

Over the past five years, Dabba Inc's focus has been on establishing extensive networks across various localities in Bangalore, effectively narrowing the data divide for ordinary users. This vibrant metropolis of Bangalore comprises diverse communities, office spaces, markets, and retail establishments, all reliant on seamless data connectivity for their operations. Consequently, they have instituted a commercial Wi-Fi network accessible to all in densely populated areas, establishing wifi dabba hotspots throughout the commercial and residential regions.

Dabba Inc services residential and commercial properties where network density is high and the Internet is a necessity for everyday commerce and household activities.

The managed service from Dabba Inc includes:

1. Marketing the service to potential customers
2. Validating KYC when required for users
3. Installation and maintainence of the physical connection
4. Provision an deployment of Dabba lite
5. Customer care
6. Replacements / repairs

Ownership experience

Once a hotspot is purchased, Dabba Inc will deploy the hotspot. Hotspot owners will be able to login to the Dabba network explorer and gain access to all the information regarding their hotspot. They will be able to monitor stats, track earnings and watch deployments in real time whether for a single hotspot or a fleet.

- ⓘ Learn more about the [India market](#) here

Self deployment

Introduction

You can buy and install it yourself if you like. From the network's perspective there is no discrimination between your installation and the units deployed in India. Growth individual deployments around the world can also shed light on the markets to prioritize.

Ownership experience

Hotspot owners will be able to login to the Dabba network explorer and gain access to all the information regarding their hotspot. They will be able to monitor stats, track earnings and watch deployments in real time whether for a single hotspot or a fleet.

Mine multiple tokens

Introduction

The hardware of the Dabba lite allows it to run a limited number of crypto projects simultaneously. Crypto projects can be installed on the Dabba lite using the Dabba IOS or Android app. The Dapp store experience is similar to the IOS or Android app store. Dapps are simple to install with a single tap experience.

App	Hardware used	Token mined
Helium	Wifi Radios	MOBILE, WIFI
Mysterium VPN	Bandwidth	MYST
Dabba Wifi	Wifi Radios	DABBATOKEN

*The table presented here is merely indicative and is subject to change

Helium Mobile & Wifi

[Helium](#) is a decentralized wireless network that uses the HNT token to incentivize the deployment of the network. Using its enterprise-grade wifi radios, Dabba lite is able to run the Helium Mobile and Wifi networks with ease to help build the Helium network and earn tokens.

Mysterium VPN

[Mysterium](#) is a decentralized VPN service that uses the MYST token to incentivize users to deploy Mysterium nodes. Dabba lite runs the mysterium node with ease and helps the user earn MYST tokens by utilizing idle unused bandwidth.

Dabba Wifi

The Wifi network running in India that is part of the managed deployment

Other tokens coming soon to the Dapp store include [Filecoin](#), [Storj](#) and many others. The Dabba lite has a powerful [developer platform](#) to build token incentivized dapps and distribute them on the Dapp store

Tech specs

Spec	Text
CPU	Quad core ARM Cortex
SDRAM	2 GB DDR4
On board Storage	8GB
Wifi	Wifi 6 4x4 2.4G 4x4 5G
Enclosure	Indoor plastic clamshell

Developer platform

Dabba lite will be accessible to developers to spin up SSIDs, customize captive portals and deliver roaming experiences. Developers will be able to access and manage deployments via API as well.

Dabba Pro



Wifi routers occupy a unique space in our homes, offices, and retail stores. They connect all our devices and serve as a gateway to the internet. They usually have a stable internet connection and a person responsible for when it goes down.

Despite this central position in our ecosystem of personal electronics, the humble wifi router has largely led a placid and mostly unchanged existence. Speeds have improved reasonably as well as advancements in consumer mesh devices that can cover a large home. Meanwhile, our phones, bluetooth speakers, televisions, gaming consoles, and even fridges have gotten dramatic upgrades in computing power, storage, and memory - making these devices more useful by allowing them to run multiple programs at the same time.

Dabba Pro corrects this evolutionary stagnation of wifi routers by packing in dramatic hardware upgrades while maintaining a small and beautiful form factor. This hardware upgrade not only means that the Dabba Pro is a more useful wifi router, but also that it can be a useful resource for the internet itself by sharing its powerful compute and storage resources. These new hardware capabilities enable a whole new world of real-world applications that will improve our lives.

 Learn more about the [wifi router market](#) here



Early 2022 vlog -- some things may have changed since then

Tech specs

<https://youtu.be/wCMnKpAkDvg>
youtu.be

Text	Dabba Pro	Average wifi router
CPU	Intel i3 multicore Tiger Lake	Low power ARM
GPU	Intel Iris	None
RAM	16GB	0.5GB
STORAGE	1TB	0.5GB
AI ACCELERATOR	Coral / Hailo*	None
WIFI SUPPORT	6E	5

*optional

CPU

An 11th gen i3 processor is a rocketship in comparison to the bicycles that power the average consumer wifi router. Having a powerful processor allows for large complex applications to run simultaneously. It is also a useful resource that can be shared across the network for distributed computation tasks.

GPU

In the age of AI, a GPU is a necessary component required to power new applications like LLMs and inference models. All networking software is going to get an AI upgrade, VPNs, packet routing, security, identity management, everything really. The GPU can also be shared across the network for distributed AI training tasks as well.

Storage

Dabba Pro has nearly 100x more storage than the average consumer wifi router. This storage can be used for data backups, media storage or simply shared across the network to create a decentralized distributed storage system

RAM

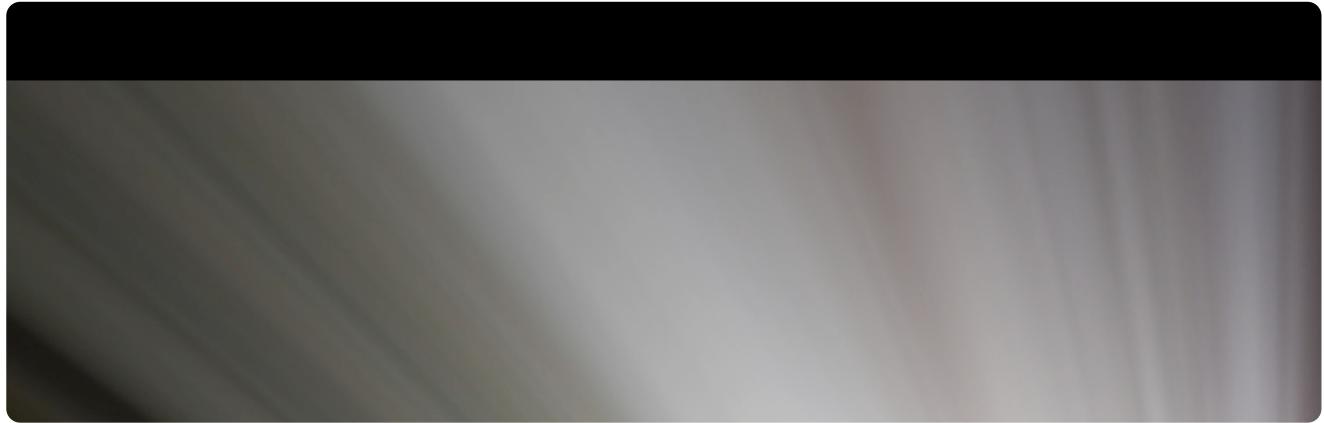
16GB of 3200mhz DDR4 ensures blazing-fast memory to keep large intensive applications running smoothly. This is nearly 16x more than the average consumer wifi router.

AI Accelerator

Dabba Pro has dedicated accelerators to run inference models blazingly fast while freeing up the CPU and GPU for other intensive tasks such as training.

Wifi

Dabba Pro has multiple redundant radios capable of serving the 2.4ghz, 5ghz, and 6ghz spectrums simultaneously with Wifi 6E support making it future-proof for years to come.



Mine multiple tokens

Introduction

The powerful hardware of the Dabba Pro allows it to run multiple crypto nodes simultaneously. Crypto projects can be installed on the Dabba Pro using the Dabba IOS or Android app. The Dapp store experience is similar to the IOS or Android app store. Dapps are simple to install with a single tap experience. The Dapp store will launch with [Mysterium VPN](#), [Helium mobile & wifi](#) and Dabba cloud.

- ⓘ The Dabba Pro can mine dozens more tokens than the Lite due it its more powerful hardware.

App	Hardware used	Token mined	Availability
Helium	Wifi Radios	MOBILE, IOT, WIFI	Coming soon
Mysterium VPN	Bandwidth	MYST	Available
Dabba cloud	SSD, CPU	DABBATOKEN	Available
Dabba wifi	Wifi Radios	DABBATOKEN	Available
Flux	SSD, CPU, RAM, BW	FLUX	Coming soon
Filecoin	Storage		Coming soon
+ Many more			

*The table presented here is merely indicative and is subject to change

Helium Mobile & Wifi

[Helium](#) is a decentralized wireless network that uses the HNT token to incentivize the deployment of the network. Using its enterprise-grade wifi radios, Dabba Pro is able to run the Helium Mobile and Wifi networks with ease to help build the Helium network and earn tokens.

Mysterium VPN

[Mysterium](#) is a decentralized VPN service that uses the MYST token to incentivize users to deploy Mysterium nodes. Dabba Pro runs the mysterium node with ease and helps the user earn MYST tokens by utilizing idle unused bandwidth.

Dabba Cloud

Dabba Pro is capable of being a cloud server much like AWS. We use it for, among other things, to coordinate the Dabba lites deployed in India because it is cheaper than AWS and is decentralized. DABBATOKENs are earned for providing compute, bandwidth, and storage services.

Other tokens coming soon to the Dapp store include [Filecoin](#), [Storj](#) and many others.

The Dabba Pro has a powerful [developer platform](#) to build token incentivized dapps and distribute them on the Dapp store

Dapp Store

<https://youtu.be/kcrjtMbKGN8>
youtu.be

Introduction

The powerful hardware of the Dabba Pro allows it to run multiple apps simultaneously. Dapps can be installed on the Dabba Pro using the Dabba IOS or Android app. The Dapp store experience is similar to the iPhone app store. Dapps are simple to install with a single tap experience. The Dapp store will launch with Personal Wifi, AdBlocker, LLM GPT Chat, Home assistant and Stable diffusion.

New hardware allows new capabilities for locally run applications, for example, video can now be processed in real time. This means that if you have security cameras, the Dabba Pro can run the latest and greatest open source video recognition AI's that can be constantly updated - unlike most security camera systems today which have weak processors and do everything in an opaque cloud.

Our goal is to nurture an ecosystem of diverse apps similar to that of mobile phones or desktops.

App	Hardware used	Token mined
LLM GPT chat	CPU, GPU	none
Stable diffusion	CPU, GPU	none
Home Assistant	AI Accelerator	none
Personal Wifi	Wifi radios	none
Adblocker	CPU	none

*The table presented here is merely indicative and is subject to change

Personal Wifi mesh extender

Dabba Pro extends the coverage of your existing wifi router by connecting to your existing network wirelessly and then rebroadcasting your existing wifi signal to extend coverage. This makes it easy to place the Dabba Pro wherever you want to without worrying about an ethernet cable or wired backhaul.

Malware and Ad Blocker

The Dabba Pro protects all your devices from unwanted advertisements and possible malware scripts. It also reduces your bandwidth usage because it doesn't load the content at all. This also protects your privacy greatly by dramatically reducing the number of trackers and cookies your devices download.

Stable Diffusion

Dabba Pro runs cutting-edge AI apps like Stable Diffusion that demonstrate the power of the hardware. This illustrates the Dabba Pro's capabilities to deploy cutting-edge AI apps in the near future.

LLM GPT chat

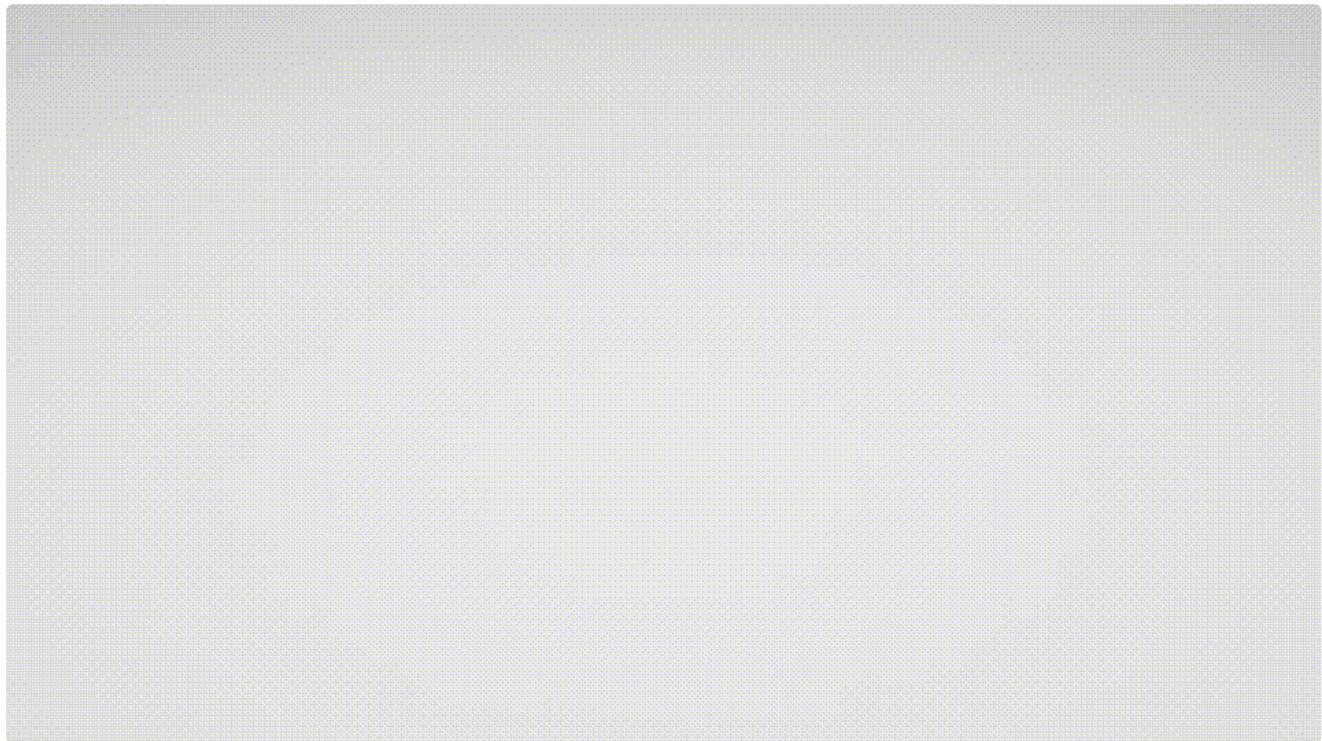
Dabba Pro can run a local copy of a Large language model for a secure and private AI assistant. This is a demonstration of the powerful offline capabilities of Dabba Pro.

Home assistant

Home assistant is a much beloved open-source project that makes it easy to connect and control IOT devices on your network. Dabba Pro runs Home Assistant with ease and uses its AI accelerator hardware to perform crucial tasks such as video object recognition for security cameras.

The Dabba Pro has a powerful [developer platform](#) to build token incentivized dapps and distribute them on the Dapp store

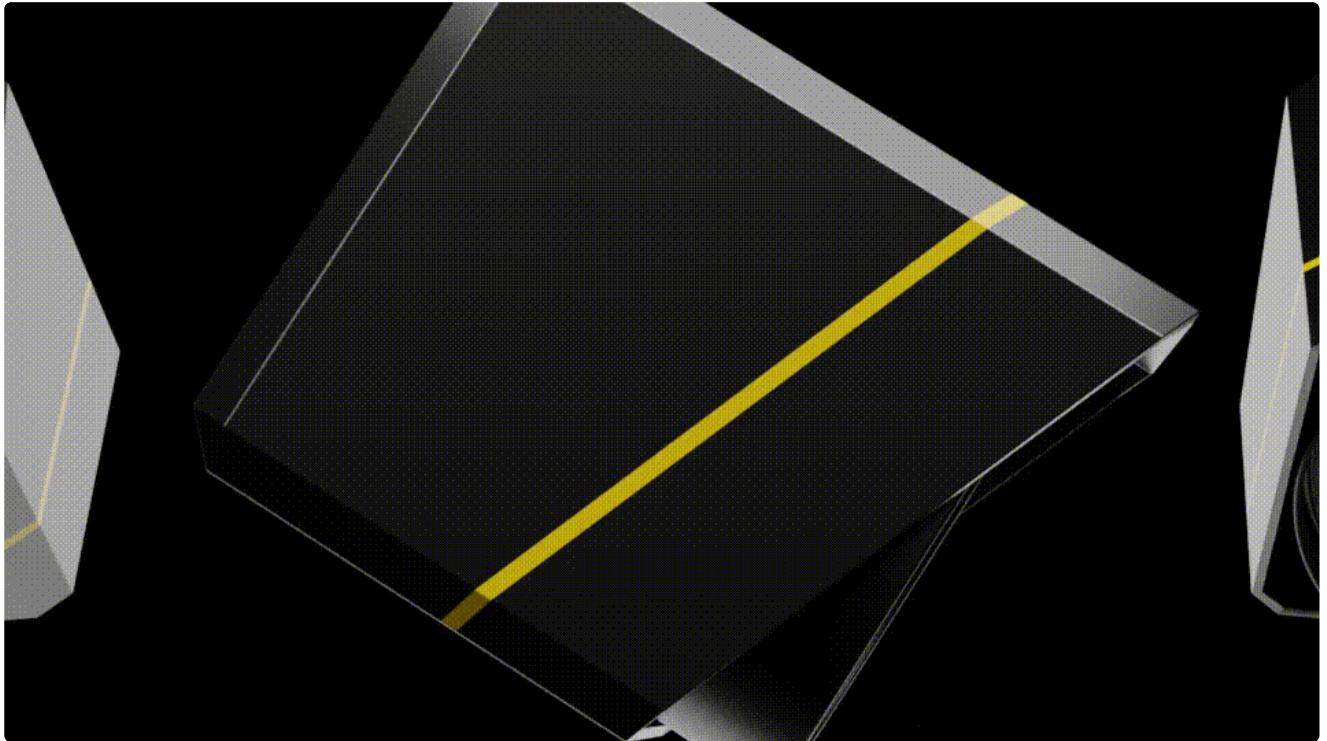
Developer platform



The Dabba Pro makes it easy for developers to deploy applications using Docker. This gives developers the ability to build applications that harness the full potential of the server-grade operating system and hardware. Developers will be able to publish Dapps on the Dabba app. This also dramatically lowers the barrier for developers to use decentralized internet infrastructure. We also believe that developers will appreciate a wholly new market with entirely new hardware to build on that has no competition for the killer apps as yet.

Learn more at developer.dabba.com

Dabba Laser



The Dabba laser is a compact outdoor laser designed to create a low cost internet backbone reliably and rapidly. It uses free space optical communications to deliver multigigabit speeds over kilometers in distance. The uses of a laser are to deploy lightweight networks in dense urban cities, cross difficult terrain and serve as point-to-point backhaul for 5G towers.

Most internet infrastructure today consists of underground fiber optic cable. While this has worked well in the past, the biggest drawback of this type of infrastructure is the cost and time taken to deploy. Whether laying undersea cables, under highway or railway cables, or underground cables in city streets, the process is always painfully the same. Laying these cables takes enormous amounts of capital, political power, heavy machinery and large labour pools.

This system has worked well enough in the past, but recent advancements in lens and laser technologies allow many of these underground cables to be replaced with faster, cheaper and smaller lasers. Communications via lasers or free space optics has traditionally been the domain of space exploration agencies over the last few decades. They use lasers across the vast distances of space to communicate between the many satellites and spacecraft across our solar system. Starlink for example, uses lasers to communicate between its satellites.

Dense urban deployment

The deployment of a low cost broadband access system in a dense urban environment requires significant innovation in the [middle mile](#). The current system of underground fiber was an effective deployment strategy in cities where expansion occurred in a reasonably planned fashion allowing for the heavy physical infrastructure to be successfully installed. This strategy is no longer effective in cities where the underground fiber has to be installed post-hoc. This is because deploying underground fiber in an existing dense urban city is extremely expensive and time consuming and sometimes impossible.

How broadband core networks are built today.

The core backbone network of most ISPs around the world for an urban environment is deployed as follows:

1. A starting point of their network, usually at the edge of the city wherein their network connects to national long distance underground optical network.
2. Starting from the edge of the city they deploy concentric circles or parallel lines of underground fiber separated by a few streets for high redundancy.
3. Routes of lines are optimized to go below where most customers are expected to be in dense urban and residential locations or downtown areas.
4. PoPs or Points of Presence are above-ground switching locations that then go the last mile to the customer's premises - either underground again or overhead aerial optical cable in developing nations.

This process is time consuming and expensive

1. Digging trenches for laying underground cable is extremely expensive, it can hit tens of thousands of dollars per kilometer.
2. Getting permits to dig is expensive
3. Local politics plays a huge role
4. It is a multi-year endeavour
5. Huge carbon footprint

Lasers dramatically lower the cost of deploying a core network

1. It's much cheaper to install a pair of lasers on rooftops or existing telecom towers than it is to dig a road
2. It takes hours vs. days to install lasers vs. digging up a road.
3. The lasers do not require any special permits to install as they are in the license free spectrum in most countries world wide.
4. They take very little power to operate
5. Compact in size

5G backhaul solution

5G promises to deliver faster speeds with lower latency. Unlike 4G deployments that have a few large towers that can cover thousands of users, 5G radios cover smaller areas and are easily blocked by buildings requiring millions of indoor units to be deployed as well.

All of these towers require a connecting source to the internet itself. Millions of new 5G cells means a greater requirement for a backhaul solution. More than 80% of telecom towers in developed nations have fiber optic backhaul whereas less than 30% of towers in developing nations do.

The current backhaul for mobile towers is underground fiber or radios. Underground fiber sucks and radios are slower as well as most bands being inaccessible in developing nations.

The lasers are a great solution to this because they offer high backhaul capacity at a low price in an easy to install and maintain manner. The laser units are aimed at being priced cheaper than the 5g radios themselves.

India laser devnet

Dabba Inc has deployed in the past more than a dozen units over an 18 month period in India. We used units from multiple vendors including our own custom design. Performance was good enough across all units that live customers were served for a while. Dabba Inc has access and installation rights to hundreds of rooftops and telecom towers across the city.

Free space optics solutions tend to work well in tropical areas and developing nations due to their relative stability in hot and rainy conditions. Conversely they are of limited use in developed nations where the weather is colder, mistier and snowier.

Dabba Inc plans to lay a grid of units across Bengaluru in 2024 to form a core backbone network.

A more detailed report will be published shortly.

Videos

Vlogs from very early in the testing and deployment phase.

<https://youtu.be/bvkw4c3fM9o>
youtu.be

<https://youtu.be/DRAJppvpgno>
youtu.be

Laser tech specs

Range	5km
Speed	10GBPS
Alignment	Auto-align

More details coming soon.

About



Dabba Foundation

The Dabba Foundation is an entity committed to supporting the Dabba Network and its auxiliary technologies. Its mission is to oversee the construction of an all-encompassing, decentralized mesh of wireless internet driven by the revolutionary Dabba routers and fuelled by the versatile \$DABBA tokens. The Dabba Foundation will steward development, maintain the Dabba network protocol's codebase, and ensure network governance. Its responsibilities span various domains:

- Orchestrating a seamless transition from a centralized to a decentralized entity.
- Crafting robust tokenomics for DABBATOKEN and distributing appropriate token incentives.
- Governing the dynamic elements of the Dabba Universe and aligning everyone with the core objectives.
- Innovating and building a solid base framework for the Dabba Universe before governance is transferred to the DAO.
- Educating the community about the multifaceted Dabba Universe.

Dabba DAO

The Dabba network's end goal is to construct a cost-effective, scalable, Decentralized Physical Infrastructure Network (DePIN) that enables decentralized connectivity. However, true decentralization is unattainable if the entire setup leans on a single entity, such as Dabba Inc. For this vision to truly materialize, the community must rise as the protocol's custodians.

The Dabba Foundation's principal mission is to supervise and direct a measured transformation of the Dabba Network. It aims to shift from an existing centralized model to a truly decentralized paradigm, where governance vests in the hands of a democratic body — a Decentralized Autonomous Organization (DAO). Comprising DABBATOKEN token holders, this DAO will govern the network, ushering in an era of decentralized internet governance by the community.

Subsequently, as the infrastructure solidifies and community comprehension deepens, the Foundation will gradually relinquish its role, transferring governance control to the DAO.

DAO Governance and Proposals

Upon the transition of control to the DAO, governance responsibilities will be entrusted to holders of the \$DABBA tokens. The process of staking these tokens will yield vote-escrowed veDABBA tokens, with the voting power of each token being contingent upon the length of time the \$DABBA tokens have been locked.

DAO members are empowered to propose enhancements and modifications through the initiation of Dabba Improvement Proposals (DIPs). All such proposals will be cataloged in github. The veDABBA token holders will be allowed to exercise their voting rights to select the most promising proposal. Each proposal will detail the suggested amendment and the corresponding financial requisites. Should a proposal accrue the necessary vote threshold, the required funds will be released from the treasury, and the development phase will commence. The voting threshold is predetermined by the DAO.

Furthermore, veDABBA holders can delegate their voting authority should they lack sufficient voting power. This strategic measure enables smaller stakeholders to consolidate their influence, thereby fostering a more inclusive governance model within the DAO. It should be noted that delegation of voting power is an all-or-nothing affair; a wallet may delegate 100% of its voting power to a single other wallet at any given time. Although the operation can be revoked at will, a 24-hour cooling-off period is mandated before delegating voting power to a different wallet.

More details on the DAO to come soon.



Dabba inc

About the company

Dabba Inc is a pioneer in building and operating low cost public wifi networks in India. Founded in 2017, Dabba Inc has deployed thousands of hotspots across India at retail, residential and commercial locations serving users with super fast, super cheap internet. Demand for data in India is roughly doubling every 18 months and Wifi Dabba is building a new data only network for a data hungry generation.

The team consists of phds in hardware, full-stack software engineers and MBA's in Bengaluru. Founders are Shubhendu and Karam. Follow them here on Twitter.

Timeline

2022

We discovered the blockchain and Helium. Spent the year learning about DePin. Design and development of the Dabba Pro begins. Raised funding from some of the best investors in crypto.

2021

Launched a public/private partnership to sell revenue sharing rights for Bangalore city. Sold all 100 PoPs to expand the laser mesh in Bangalore city.

2020

FSOC goes live - First FSOC link goes live in partnership with Google X. We hit operational profitability.

2019

Middle mile distribution. Two member team start work on building our own backhaul solution. FSOC - finalized on laser tech to build a scalable & affordable middle mile solution. Google partnership - deployed Wifi for Google station. One hundred highrise buildings. Crossed this milestone while being the first choice for ISP services for brands like HDFC, OYO, Nestaway, Colive and others. 1st Product patent - Filed to modernize the optical fiber to work as a active link.

2018

Spent 3 month in Shenzhen. Learnt how to build routers and manufacture them at scale. Started shipping our own routers with custom OS and batteries. Starting to learn about and hit scale issues like Partner ISPs & LCOs unable to provide reliable & cheap backhaul. Built & deployed 1st PDO in India. Inaugurated by Telecom minister of India.

2017

Started working on Internet wifi Policy for India with TRAI & DoT. First engineer hired. 500+ locations. Largest public wifi network in city of Bangalore. Raised pre-seed from YC & other valley based investors.

2016

First hotspot built over RasberryPi launched in a bakery shop opposite to our office in IndiraNagar, Bangalore. Expanded to 10 locations with 15% growth week over week. Accepted into Y Combinator.

Learn more at www.dabba.com

Join the conversation

Disclaimer

Neither Wifi Dabba Inc (the "Company") nor any of its affiliates (together with the Company, the "Group") makes any warranty whatsoever (express or implied) with respect to the Dabba network, any Dabba hardware devices, or any Dabba Token, including, without limitation, any:

- (i) warranty that any Dabba Token will be issued;
- (ii) warranty of merchantability;
- (iii) warranty of fitness for a particular purpose;
- (iv) warranty of title; or
- (v) warranty against infringement of intellectual property rights of a third party, whether arising by operation of law, course of dealing, course of performance, usage of trade, or otherwise except as expressly set forth in writing between the Company and any recipient of Dabba Token, it is a condition of you receiving and retaining this White Paper that you warrant to the Group, its managers, directors, affiliates and its officers that you have not relied upon any warranty made by the Group, or any party within the Group, or any other person on the Group's behalf.

The information in this White Paper is subject to change or update and should not be construed as a commitment, promise or guarantee by the Company, the Group or any other individual or organization mentioned in this White Paper relating to the future availability of services related to the Dabba network or the use of DBT Token or their respective future performance or value. The Group expressly disclaims any and all responsibility for any loss or damage of any kind whatsoever, including but not limited to direct or consequential damages, arising directly or indirectly from reliance on any information contained in this White Paper, any error, omission or inaccuracy in any such information or any action resulting therefrom.

ANTI-MONEY LAUNDERING AND KNOW-YOUR-CUSTOMER REQUIREMENTS

Any recipients of Dabba Token may be required to comply with the Company's anti-money laundering and know-your-customer requirements.

IMPORTANT INFORMATION: DISCLAIMERS AND CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

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- (i) the risk that there are no guarantees that Dabba Token will have any value, retain any value, increase in value, or receive any distributions, nor does anyone guarantee the liquidity or market price of Dabba Token to any extent at any time; in fact, it is expected that Dabba Token will not have any cash value
- (ii) purchasers or recipients of Dabba Token may not be able to obtain all of the information they want regarding Dabba Token, the Dabba network or the Company, on a timely basis or at all;
- (iii) holders of Dabba Token will not have any voting rights in respect of the Dabba network or the Company;
- (iv) regulation of digital assets (including tokens) and offerings of digital assets are currently undeveloped and likely to rapidly evolve, and vary significantly among non-U.S. and U.S. federal, state and local jurisdictions and are subject to significant uncertainty and could have a material adverse effect on the Company and the Dabba network;
- (v) the Company, the Dabba network and third parties on which the Dabba network relies are operating in a regulated sphere, and as the Dabba network expands, additional regulatory approvals may be required. To the extent these are not able to be obtained, or any regulatory approvals that are obtained are then revoked or limited, this could impact the services provided by the Dabba network and have a material adverse effect on the Company and the Dabba network;
- (vi) the Company and the Dabba network are developing technology in a highly competitive industry; it is possible that competitive networks could be established or developed that attempt to implement services that are materially similar to or otherwise in competition with those offered by the Company and the Dabba network may be forced to compete with these competitive networks, which could adversely impact the Company and the Dabba network;
- (vii) any breach of data security that exposes or compromises the security of the Dabba network could have a material adverse effect on the Dabba;

- (viii) network outages or service or product failures that could lead end users to use competitors' services and products;
- (ix) the ability of the Company to develop, test and validate its technology and the network infrastructure for the Dabba network;
- (x) investigations, claims, disputes, enforcement actions, litigation and/or other regulatory or legal proceedings;
- (xi) and the possibility that the Company may be adversely affected by other economic, business, and/or competitive factors. You are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date the statement was made. Actual results may vary from the anticipated results and such variations may be material. The Company and its affiliates expressly disclaim any obligation to update or alter any forward-looking statements, whether as a result of new information or otherwise, except as required by laws. Statements contained herein describing documents and agreements are summaries only and such summaries are qualified in their entirety by reference to such documents and agreements.

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this White Paper, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain, and you are cautioned not to unduly rely upon these statements.