AI Power for the Edge

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Abstract

The expanding availability and commercialization of artificial intelligence (AI), machine learning, and large language models (LLMs) has created a new world of massive datasets filled with rich information. The ability to extract insights and utility from these structured and unstructured datasets is considerably beneficial for both businesses and consumers, yet still largely untapped.

Recent reports estimate that the current global edge AI market is $66B, in terms of data volume, connected devices, and market size[1]. This market is expected to expand at a compound annual growth rate (CAGR) of 21% by 2030.

Edge AI innovation is being driven by a growing demand for connectivity and compute to support emerging technologies such as real-time augmented reality (AR) and virtual reality (VR) experiences, autonomous vehicles (self-driving cars and drones), as well as Internet of Things (IoT)-based edge computing services and sensors (e.g. tracking shipments, environmental sensors, etc.) While IoT generates vast amounts of data, edge AI enables efficient data collection, insight generation, and automated operational decision making.

For the past 30 years, internet infrastructure has followed the same basic paradigm for moving data: capture and compress → transfer → decompress and analyze. Today, we're at the precipice of a new AI-driven paradigm: capture and summarize → transfer → prompt. Because LLMs are much more expressive and efficient than traditional compression algorithms, exponential performance improvements are the result. For the first time, there is a substitute

for expensive bandwidth - you can simply shorten the prompt before sending and/or increase the number of model parameters on the receiving end. However, this requires having significant compute and AI capabilities at the edge.

Enter 375ai or 375, a leading developer of decentralized wireless and edge infrastructure. The company's vision is to power the world's first and largest decentralized edge data intelligence network. 375 solves for today's current edge computing and AI needs with their platform that enables a new modality of internet data transfer. Through their edge data intelligence network, 375 empowers people and companies to gather massive amounts of data, gain insights and value in the form of data patterns and behavior, and generate rewards by deploying token-incentivized physical assets.

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Introduction and Background

Today, more than ever, humans are reliant on smart devices in their day-to-day lives, from cell phones to wearables to vehicles, and more. While this has resulted in the increased production of information, companies and developers still have a tremendous need for a solution that will help to capture, analyze, and monetize insights from this data.

The telecommunications and networking industries have undergone a paradigm shift in recent years, driven by an exponential increase in data generation and consumption by both businesses and consumers. This leads to a two-sided challenge for enterprises: providing robust connectivity to support escalating data usage and implementing edge computing solutions to process this quantity of data. 375 is uniquely positioned to tackle these challenges with a critical edge data intelligence platform, providing advanced connectivity solutions and data processing capabilities.

The genesis of 375 is rooted in understanding current market challenges driven by decentralized infrastructure and edge AI, and creating technology solutions to meet these opportunities. With diverse backgrounds at leading technology companies such as Juniper Networks, Palo Alto Networks, Fortinet, Linksys, Amobee, Singtel, Jajah, and Telefonica, the 375 co-founders are uniquely equipped to capture the shift towards large-scale data capturing and edge processing. Their collective expertise spans critical areas such as advanced networking, cybersecurity, mobile advertising networks, and Voice Over Internet Protocol (VoIP) services.

Solutions like Helium, Hivemapper, Render and a handful of others have started to pave the way to a new world in which anyone can monetize the gathering of resources that they historically could only consume.

To help fill this evolving demand, 375 is building a decentralized edge data intelligence network consisting of a number of different hardware and software elements:

375edge:

- **Overview:** An enterprise-grade sensor and edge AI node, the 375edge is a modular platform with embedded connectivity and edge AI capabilities that can be strategically deployed in high-traffic areas such as adjacent to highways or on buildings. These nodes gather an expanding set of multimodal data such as vehicle make, model, type, and count, as well as identifying information on commercial vehicles, location, time-synchronized environmental data, and more. 375edge nodes provide a platform for rapid deployment of other DePIN projects that can leverage 375's strategic locations and multi-purpose, modular hardware with the possibility for bi-directional data enrichment between 375 and other projects.
- **Technical Architecture and Specifications:** 375edge devices are manufactured with an array of high-resolution cameras, environmental sensors, and other capabilities to collect a broad range of multi-modal data, including visual information. These cameras can be used to gather data on vehicle identification, passenger and pedestrian counts, traffic patterns, environmental conditions (temperature, wind, moisture, etc.), and more. Embedded Wi-Fi and connectivity sensors measure signal strength and quality, and GPS capabilities help with precise geolocation data. The nodes then leverage NVIDIA GPUs to locally transform these data assets into summarized and queried insights.
- **Network:** 375 offers three deployment options for interested parties, who will be initially vetted and approved: purchasing and deploying the 375edge at their own

locations, utilizing one of the thousands of pre-secured locations through 375's partnerships, or opting for a managed service where 375 operates the device on the deployer's behalf.

375go:

- **Overview:** 375go or Go, is a consumer-focused mobile application used by a broad set of network participants who are incentivized to enrich the broader data set gathered by 375edge nodes through a token reward system. Go will support both passive data collection (such as cellular and wireless network coverage and signal strength) and active, gamified data collection (such as pictures of commercial vehicles to capture identifying information including DOT number, vehicle make or model, business name or phone number, and sound or video clips for environmental data analysis).
- **Fees and reward system:** Users will initially be able to use a free version of the app to earn tokens, but a paid version will be required to claim earned rewards. The fee to purchase the premium app will assist with spam prevention on the network. Users will be able to verify their device(s) connectivity and uptime in the app while collecting 375 tokens in return for participation.

Edge Compute, Edge Data & Sensors

The edge computing paradigm brings computational resources closer to the physical location where they are needed most. Historically, these resources have been maintained in select high security locations, but as the world of data expands, the requirement for localized compute becomes increasingly important. Unlike traditional cloud computing, which relies on a centralized data center, edge computing decentralizes processing power to the "edge" of the network, closer to the source of data.

375 leverages compute in its edge devices and apps to create a decentralized edge data intelligence network. This network consists of various hardware and software components that work together to collect, process, and analyze data at the edge.

Network Participants

The 375 network, a blend of individual and enterprise participants across diverse geographies, is powered by a combination of 375edge and 375go devices. These elements work together to form a robust ecosystem: 375edge nodes, deployed in fixed locations, handle large-scale

data collection, while 375go apps enable individuals to contribute smaller datasets and to validate nearby 375edge's. This arrangement simplifies user participation and network governance, allowing for a distributed data intelligence platform.

Data Buyers

375edge units and 375go apps will capture valuable data that builds and enriches a massive data set made available on the 375 network. To pay for or consume that data, Data Buyers will purchase data credits (with fiat) that are then used to buy-and-burn the 375 token.

As we look to the future, 375's strategy involves monetizing this diverse repository of multi-modal data. The data captured will be made available for purchase, catering to enterprises, civic planners, research bodies, and advertising agencies, and other Data Buyers. This initiative will empower these entities with data that can drive informed decisions, foster innovation, and propel research efforts.

To facilitate access to this data, participants on the network will use a mechanism similar to data credits (DC's), purchased with fiat currency, which buy-and-burn the 375 token. This mechanism not only simplifies the transaction process but also integrates the utility of the 375 token and accrues value back to the entire network by deflating the token supply.

Network Implementation

Proof of Data

375 plans to introduce a new validation mechanism for the network between 375edge machines and 375go users called "Proof of Data" (PoD). The system will be crucial for maintaining the integrity and utility of data within the network. Each party plays a complementary role where 375edge and 375go independently gather signals. This allows 375 to collect, verify and process edge intelligence data at a scale that's very difficult to compete with.

375go, tailored towards retail consumers, serves a complimentary purpose in the network. Apart from collecting cellular network signals and other discrete data, users will have the opportunity to participate in gamified rewards campaigns. In an eventual state, it's possible

that the 375go apps will ensure the authenticity of the data collected by 375edge nodes, playing a vital role in maintaining a high quality intelligence network.

Through the PoD mechanism, the 375 network fosters an environment where the roles of 375go users and 375edge devices are interconnected and positive sum. Moreover, diversifying and growing network participation will help 375 towards being a robust decentralized network, demanding high-quality data collection and validation.

How to Get Involved

Retail consumers can join the 375 network by downloading and signing up for the 375go app. The app serves as the central hub for tracking signal collection, and claiming rewards. The app guides the user through a simple setup process, ensuring the app is correctly connected and operational. Additionally, the app offers educational content to help users understand the network. A premium version of the app will be available for purchase allowing users to claim their 375 rewards and to participate in the Proof of Data validation system.

Enterprises interested in deploying 375edge nodes undergo a more involved onboarding process due to the device's complexity. The first step is a selection process, where enterprises are vetted and chosen based on their capacity to effectively deploy and manage the device. Selected enterprises then receive hands-on assistance from the 375 team, ensuring a smooth integration with the network. This includes detailed guidelines on device placement, specifying the height and proximity to significant traffic areas. The deployer is also guided through the technical setup, guaranteeing the device is correctly installed and connected to the network. This support secures smooth network integration and maximizes the effectiveness of 375edge deployments.

These resources include access to 375’s best-in-class real estate portfolio so that deployers will never have trouble finding locations to put the 375edge. 375 is uniquely positioned to accelerate and ensure the successful deployment of 375edge devices at scale with access to 40k billboards via its exclusive partnership with Outfront Media (NYSE: OUT), along with other commercial real estate locations including roof tops.

Data Quality & Spam Prevention

To establish high-quality data collection, 375edge devices must adhere to strict deployment guidelines. Given their role in capturing comprehensive data sets, these devices should be installed at a sufficient height and within a certain distance from highways or other high-traffic areas. This positioning is crucial to gather relevant and extensive data efficiently. To combat potential spam, it is planned for 375edge devices to undergo real-time validation by local 375go users. Any discrepancies or anomalies in data patterns will trigger an alert, prompting further investigation and potentially delayed rewards.

375go apps continuously gather data throughout the day, with data quality certified through timeliness and completeness. If an app is offline or provides incomplete data for a cumulative week, a 0.1% penalty on the principal reward is imposed. Continuous non-compliance or spam reporting for three consecutive weeks will result in the device's stake being slashed and burned, and may be followed by a ban from the network.

Rewards are distributed in epochs, and devices that meet all quality checks receive full rewards. However, if certain standards are not met, rewards can be reduced to 75%, 50%, or nothing, based on the severity of the non-compliance. This tiered approach incentivizes participants to adhere to the network's requirements. Continuous compliance leads to full reward potential, while any deviations result in scaled penalties. The goal is to establish a fair and balanced incentive schedule, encouraging both retail and enterprise participants to contribute high-quality data at a consistent rate to the 375 network.

Privacy & Network Security Measures

The 375 network is designed with a robust, privacy-first approach in its data collection and processing practices. Where required, any data that could be personally identifiable information (PII) is handled at the edge to ensure it is de-identified, anonymized and aggregated to remove or mask sensitive information before the data is transmitted to the network. All network elements are designed in such a way as to enable 375 to comply with all relevant privacy rules and regulations.

375edge devices are equipped with built-in security features to prevent unauthorized access and tampering. These devices undergo regular security updates and patches to address vulnerabilities and enhance resilience against cyber-attacks. Physical security measures are also

taken into consideration to protect the hardware from physical threats and unauthorized access.

Tokenomics & Economic Model

375 tokenomics have been designed around three types of market participants: retail app users (375go), enterprise device deployers (375edge) and data buyers. Incentives are provided to the suppliers of data to the network, 375edge and 375go devices, while data buyers burn tokens to accrue back to the network.

375 is planning a two-phase approach to bootstrap its economic stability: starting with an inflation-driven rewards system to drive vibrant network participation, and then transitioning to a revenue-based incentive model sustained by data sales. The first phase, though intended to be short lived, is crucial for rapidly scaling the network and encouraging early adoption among users and deployers. This approach helps to build long-term sustainability for 375 anchored in the commercialization of anonymized, edge data. The data collected will be geographically diverse and multi-modal, making it a valuable asset for a wide range of buyers, from data brokers to hedge funds.

The practical commercialization of this data will be conducted over fiat or USDC rails, which is then automatically converted into our native token, 375. To counteract the initial inflationary phase and enhance token value, a majority portion of the 375 acquired through these sales is subsequently burned. This deflationary mechanism gradually reduces the total token supply, fostering scarcity while still paying the network's resources for their services.

The transition from an inflation-driven model to a revenue-based incentive model ensures 375’s economic sustainability. In summary, 375’s tokenomics framework is designed to balance initial growth with organic stability, ensuring that all participants are incentivized and that the network remains robust and valuable.

The 375 Token

375 Distribution

In the 375 token design, a significant emphasis is placed on rewarding and incentivizing network contributors. Out of the total supply of 1 billion (1,000,000,000) 375 tokens, the majority are allocated to participants who actively contribute to the network's growth and sustainability. This approach ensures that those who are integral to the network's operation and success - including retail consumers, large-scale deployers, liquidity providers, and core contributors - are appropriately incentivized.

Tranche	Quantity	Vesting
Private Investors	15%	1Y cliff; 24 months linear (1/24 vesting per month from month 13-36)
CEX & DEX Listings	5%	100% unlocked
Liquidity Provisioning	2.5%	100% unlocked
Treasury	5%	100% unlocked
Partnerships & Marketing	5%	100% unlocked
Community Incentives	42.5%	Distributed over 8 years
Team & Core Contributors	25%	1Y cliff; 24 months linear (1/24 vesting per month from month 13-36)

- Seed and Private Investors: Comprising 15% of the total supply, these tranches cater to the early backers and private investors. They are subject to a 1-year cliff and 24-month linear vesting (1/24 vesting per month from month 13-36), aligning their interests with the network’s long-term growth.
- Listings and Liquidity Provisioning: 7.5% of the tokens are allocated for public sale and liquidity provisioning, with these tokens being 100% unlocked. This ensures immediate participation from the broader public and sufficient liquidity in the market.
- Treasury: 5% of the tokens are allocated to the treasury, fully unlocked, providing flexibility for strategic initiatives.

- Partnerships & Marketing: 5% of the tokens are allocated to the partnerships and marketing efforts, fully unlocked, enabling early community bootstrapping.
- Community Incentives: The largest tranche, 42.5% of the total supply, is dedicated to community incentives. This portion is fully unlocked and distributed over ~5 years, playing a pivotal role in rewarding network participation and fostering community growth. Though the exact split between the 375go app and the 375edge devices is still being determined.
- Team & Core Contributors: Finally, 25% of the tokens are reserved for the team and core contributors, vested over a period of time to ensure their commitment to the network's success.

The tokens distributed under the community incentives tranche will be leveraged for a variety of ways to enhance network engagement and growth. These may include rewards for network participation, funding community-driven initiatives, or supporting emerging DePIN niches. This tranche is critical for building a robust and active community, which is key to the network's long-term success and sustainability.

375 Utility

The utility of 375 tokens within the 375 network is multi-faceted, and crucial to the network's security. At first, 375 holders will maintain governance rights before the staked 375 token plays a role in confirming data validity from 375go apps and 375edge devices. By incentivizing active participation in data reporting, 375 tokens are rewarded for the best behaved actors as defined by the protocols data quality standards and other guidelines.

The staking of 375 tokens is a fundamental mechanism for preventing low or no-cost spam attacks and for driving governance decisions. Retail contributors, by staking tokens as a function of purchasing the premium tier of the app, also help to enrich the validity of data produced by 375edge devices. This staking model is designed to ensure that the network is directed by those genuinely invested in its long-term success. It's important to note that 375 tokens staked grant voting rights on issues pertinent to those 375go's, while the governance of 375edge devices remains separate. This delineation ensures that the interests of retail and enterprise users are protected.

The 375 rewards structure will implement an efficacy-focused reward system. Deployers and app users are compensated based on the quality and relevance of the data they provide, with reward adjustments occurring each epoch based on aggregated performance metrics. This

dynamic and equitable structure ensures fair compensation for different contributions to the network. These tokens are not just representative of rewards, but rather it's a means of participating in 375's future developments.

Staking to Validate

In the 375 network, staking 375 tokens is vital for maintaining alignment between 375edge and 375go devices, and for driving governance decisions. Staked tokens may be liquid in the future but likely under a version two (v2) of 375. 375go apps with a stake are considered to be verified users who participate in the Proof of Data system. Apps without a stake are still eligible to earn rewards for collecting signals, but they won't be eligible for boosted rewards that come from validating 375edge uptime and authenticity.

This approach guarantees that the network is shaped by those who are genuinely invested in its success. For the first version of 375 there will be no staking for 375edge deployers, although there's nothing stopping these individuals from also using the 375go app as well.

Rewarding Network Participants

The native token to the 375 network adopts a performance-based reward system, where network contributors are remunerated according to the quality and relevance of the data they provide. Adjustments to these rewards are made each epoch, based on aggregated performance metrics, ensuring a dynamic payout. While a high level framework is described here, the exact rewards structure particularly for boosted engagement are to be determined.

More specifically, each download of the 375go will have a net rewards cap for each rewards epoch. Rewards are determined by two factors, stake and data gathered, where device owners can be slashed incrementally for reporting poor data or for having poor uptime. By slashing a small part of the devices stake as a result of consistent performance issues, 375 hopes to align the incentives for accurate and honest network involvement.

Enterprises, equipped with the more advanced 375edge devices, earn 375 tokens on a larger scale, reflective of the greater value and volume of data they contribute. The maximum amount of rewards in each epoch are dependent on the several factors which will be made public and clearly communicated. The data quality and volume thresholds not only qualify

incoming and reported data but they ensure that the 375edge has been physically deployed properly.

Burning 375 From Data Consumption

A key aspect of the 375 token is the burning of tokens upon data consumption. This mechanism introduces a deflationary feature into the network's tokenomics, which aims to accrue value back to 375 holders over time. As data is consumed within the network, a corresponding amount of 375 tokens are permanently removed from circulation using underlying data credits. This means that fiat can be used to pay for data and the funds will be used to conduct a buy-and-burn of 375 tokens.

This process not only helps regulate the supply of 375 tokens, ensuring that inflation is kept in check, but it also encourages prudent data usage and limits spam. By tying the consumption of data directly to the token's scarcity, the network incentivizes efficient and meaningful data exchange, aligning economic incentives with the overall goal of providing high-quality, relevant data services.

Governance

375 believes that decision making should be in the hands of as many voices as possible, and that its contributors are best positioned to steer the future of decentralized edge data. The future work of 375 will not be decided by a select group of individuals, but rather amongst formalized improvement proposals and community channels.

375 tokens that’ve been staked to a 375go service will be used to facilitate the network’s governance, particularly surrounding decisions for that and not for the 375edge. It can be imagined that the 375 community will want to add new services for their 375go app to support, either via an upgrade for new software or via an upgraded piece of hardware. Furthermore, the community may look to form subDAO’s to keep tabs on different emerging DePIN niches at a very low level. Their expertise can be memorialized in the form of a committee if that’s something the whole community wishes to explore.

The 375edge device will not be under any control by 375 holders in the immediate term, though this may change in the future if it aligns with 375’s customers. Similarly, the 375edge

device exclusively services enterprises who will not have voting control over retail devices. This helps to prevent 375edge owners from interfering with the best interests of the retail device and vice versa. It's important to keep incentives and user behaviors aligned so that the network doesn't vastly favor one party or the other.

Roadmap & Future Work to be Explored

375 will first release its 375edge to a group of select business partners for its latest round of testing. The 375edge's launch will be followed by the 375go for consumers, available for preorder shortly before launching.

The variety of third-party DePIN devices within the 375edge boxes are subject to change with the latest developments around DePIN projects. It's planned that a future round of 375edge devices will come with support for existing DePIN projects which are subject to change in future node devices. Revenue distributions from this may change as business relationships mature. Moreover, 375 envisions expanding the types of data collected and ongoing growth in the hardware form factors available to support network participation. This expansion may include products such as car-mounted sensors and smaller hardware modules for locations such as retail stores.

Further, a data marketplace will be established where companies can purchase data that is priced dynamically based on its type and the market demand. As previously mentioned, a data credit model to buy-and-burn the token will be utilized so as to accrue value back to the 375 network.

Moreover, future iterations of the 375edge may include environmental sensors that measure parameters like temperature, humidity, air quality, and noise levels. Temperature sensors record ambient temperature, while humidity sensors detect moisture levels in the air. Air quality sensors monitor pollutants and particulate matter and noise sensors measure sound levels to assess noise pollution, an important factor in urban environments. Collectively, these additions enrich the data that 375 has and create more opportunities for commercialization.

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