

# Whitepaper

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Transforming Telecommunications with the Blockchain.

# Executive Summary

## Minutes Network Token

- Minutes Network Token (MNT) is a real-world, commodity-industry based token with unlimited rewards potential and the fulcrum of a new, telecommunications based, sharing economy.
- The total MNT supply is capped at 500 million and the full supply will be released over the course of the 60-months following the closing of the public sale, executed via an algorithmic smart contract.
- MNT will roll out on the Ethereum blockchain as an ERC20 token utilising:
  - Ethereum (L1) blockchain to decentralise and distribute telephony infrastructure and create the reward-based sharing economy.
  - World Mobile Chain's as a traceability layer for the cost-effective settlement of data. <sup>[1]</sup>
  - WMC's architecture to perform rollups on other public blockchains (L2) containing the hash of the data published on WMC serving as the trust layer.
- MNT utility is derived from two sources: Operating the DePIN Nodes and a new Sharing Economy. All Minutes Network's net revenue will be used to purchase MNTs for distribution to staking economy and sharing economy participants.
- All rewards will be trackable and accessible from within the MNT Portal.

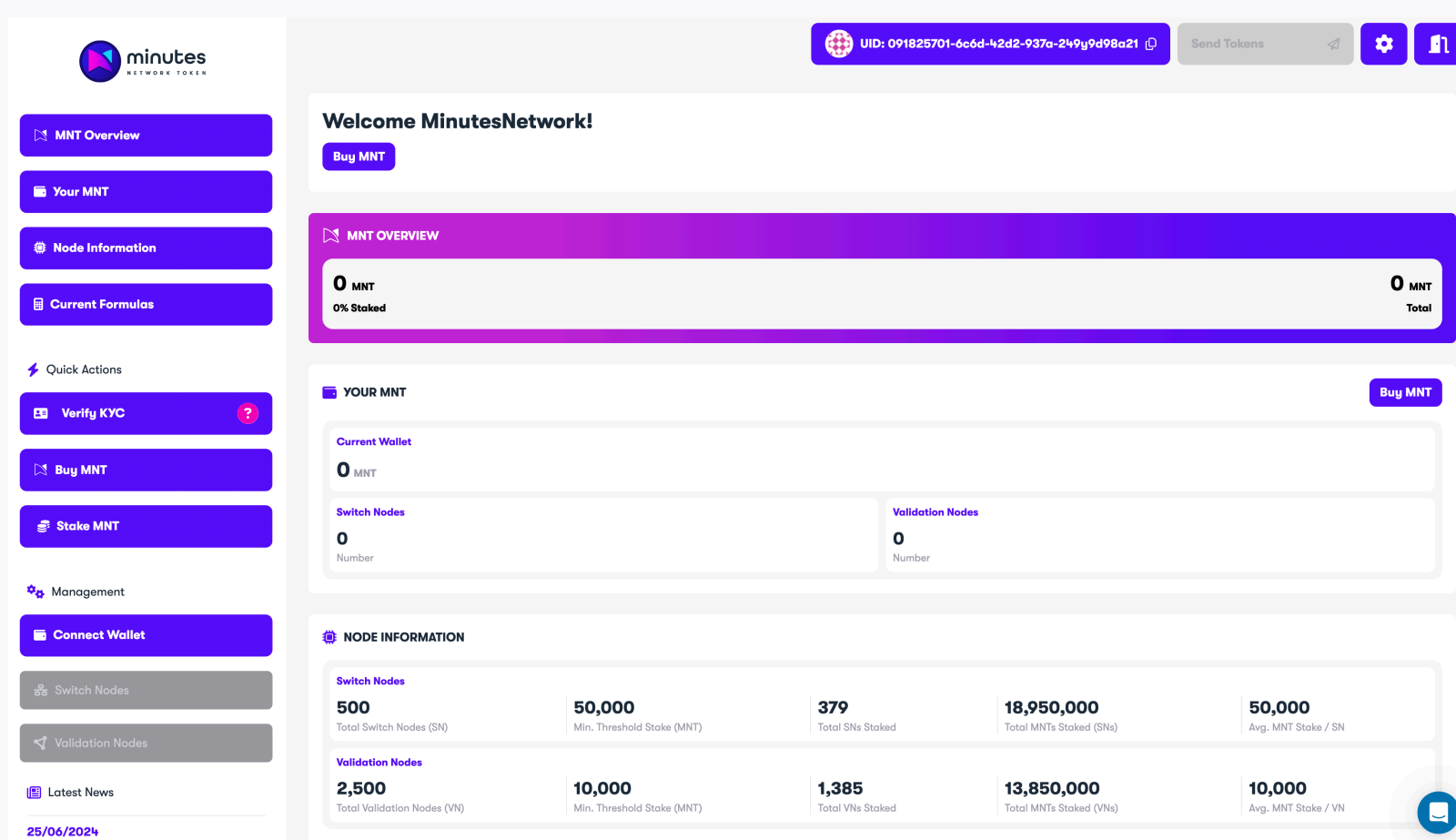


Figure 1: MNT Portal (<https://portal.minutesnetworktoken.io>)

## Minutes Network

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- Minutes Network is a wholesale voice-call termination service provider <sup>[2]</sup>, operating in a global market that generates revenues exceeding \$251 billions annually<sup>[3]</sup>.
- Minutes Network generates income by charging voice carriers <sup>[4]</sup> for terminating their voice call traffic.
- Minutes Network's ability to win business in this competitive commodity market stems from its transformational, proprietary technologies developed by Mintech <sup>[5]</sup>, Minutes Network's software development and engineering hub.
- Mintech's initial suite of proprietary software and protocols, centre around:
  - Mintech Rapid Growth Library (MRGL) <sup>[6]</sup>, enabling the network to absorb billions of users at pace. Due to this unique engineering, Minutes Network will be accessible to over two-billion users worldwide by 2030.
  - Mintech Revenue Turbine (MRT) <sup>[7]</sup>, which minimises costs and optimises system value capture from every call;
  - Mintech Flexible Connect (MFC) <sup>[8]</sup> provides the capability to terminate calls across a range of non- traditional platforms;
  - and
  - The Mintech Development Sandbox (MDS) <sup>[9]</sup> the centre of Minutes Network pre-production and testing ensuring a continuous stream of telecommunications innovation
- Harnessed together these innovations enable Minutes Network to provide wholesale voice carriers with call terminations at systemically lower prices than can be achieved by any other wholesale service provider.
- The Minutes Network proposition has garnered positive reception globally, as reflected by our growing collaboration with a broad network of partners who maintain connections with major international carriers.
- Minutes Network is already terminating in excess of one million minutes of voice traffic every month and is revenue generative.
- This income provides the means through which Minutes Network redistributes value, creating a broad-scale telecommunications sharing economy via the Minutes Network Token (MNT).

# Minutes Network Nodes and MNT Staking

- The Minutes Network Nodes provide the critical DePIN infrastructure that allows Minutes Network to terminate voice traffic over a stable global platform.
  - 500 Switch Nodes provide sufficient capacity to terminate up to 72 million minutes of voice-call traffic per day.
  - 2,500 Validation Nodes serve to monitor and maintain the health of and integrity of Minutes Network, to ensure call quality meets and exceeds minimum carrier service level requirements.
- The Nodes can be hosted as managed solutions, or self-hosted and Node GUI access is provided. When self-hosting the minimum hardware requirement is:

Switch Nodes	Validation Nodes
<p><b>DEDICATED HARDWARE</b></p> <p>2.4GHZ INTEL OR AMD CPU WITH MULTIPLE CORES</p> <p>240GB SSD</p> <p>100MB NIC</p> <p>MODERN LINUX KERNEL</p> <p>16GB RAM</p>	<p><b>VIRTUALISED OR DEDICATED HARDWARE</b></p> <p>2.4GHZ INTEL OR AMD CPU</p> <p>240GB SSD</p> <p>100MB NIC</p> <p>MODERN LINUX KERNEL</p> <p>8GB RAM</p>
Minimum Threshold MNT Stake	
50,000 MNT	10,000 MNT

Figure 2: Switch Nodes Validation Nodes hardware

- The only way to secure an infrastructure node is by staking MNT tokens.
- Ongoing staking will be a dynamic process with Node Operators determining their own optimal staking positions.
- Rewards accrue to private Node operators as a result of their staking activities. One Validation Node has been set aside to enable public, delegated staking.

# MNT Reward Generation

- The net revenues derived from Minutes Network's termination services are algorithmically transformed into MNTs and allocated between the key network participants: Infrastructure Operators, Network Users and Minutes Network Limited.
- All rewards can be accessed and managed via the Minutes Network Token Portal.

## Infrastructure Operators

- Infrastructure Operator rewards are derived from 70% of all rewards generated in any epoch.
- 10% are allocated to Node Holders on a rewards per node basis irrespective of the number of MNT staked against the node above the minimum threshold requirement. All nodes that have been staked by a single holder for an entire Epoch will qualify to participate in these rewards and these awards are not subject to the algorithmic burn. Any nodes that remain unstaked in Epoch or become unstaked during an Epoch will have their potential reward allocation burned.
- 60% are subject to an algorithmic MNT burn. This process of staking, burning and rewarding creates MNT's node economy. The exact number of MNT rewards distributed to Infrastructure Operators in any epoch depends on the proportion of MNTs Staked vs the Total Circulating Supply, with unallocated balance being burned. The formula being:

$$60\% \text{ EPOCH REWARDS } \times \\ \left( \frac{\text{TOTAL MNT STAKED}}{\text{TOTAL CIRCULATING SUPPLY}^*} \right) \times 50\%$$

*\* NB For the purposes of the burn calculation, the Total Circulating Supply excludes any the MNT released to the Network Expansion Pool that remain unallocated and all unclaimed User Rewards.*

- Epoch rewards are distributed to stakers based on their proportional contribution to overall staking.
- One Validation Node is set aside to allow for delegated staking. It only becomes reward bearing once the Minimum Staking Threshold (10,000 MNT) has been crossed and whilst rewards are generated in line with all other nodes, half the accumulated rewards on the delegated node are burned prior to rewards being distributed.

## Network Users

- Minutes Network rewards people for making and receiving the calls it terminates.
- Network users share 15% of all the rewards generated each epoch.
- Every number appearing over the network will be provided with a non-custodial wallet to which rewards are credited, driving mass blockchain adoption.
- Token rewards can be utilised for delegated staking. Additionally they may be used to make low-cost international outbound calls within the MNT Token Portal via our integrated web-caller.

## Minutes Network

- Minutes Network Ltd will receive 15% of all rewards generated to support continued network innovation.

# 1. Market Overview

- 1.1 The paid-for voice-calling market is projected to reach US\$251.0bn in 2024 and show an annual growth rate (CAGR 2024-2028) of -2.74%, resulting in a market volume of US\$224.6bn by 2028. <sup>[10]</sup>
- 1.2 Whilst over one-third of the market is dominated by a set of major international telecommunications operators, over 60% is held by smaller regional and national companies throughout the world.



Figure 3. Global share of mobile voice revenues by international operator 2022. <sup>[11]</sup> Source: Statista Market Insights, 2024.

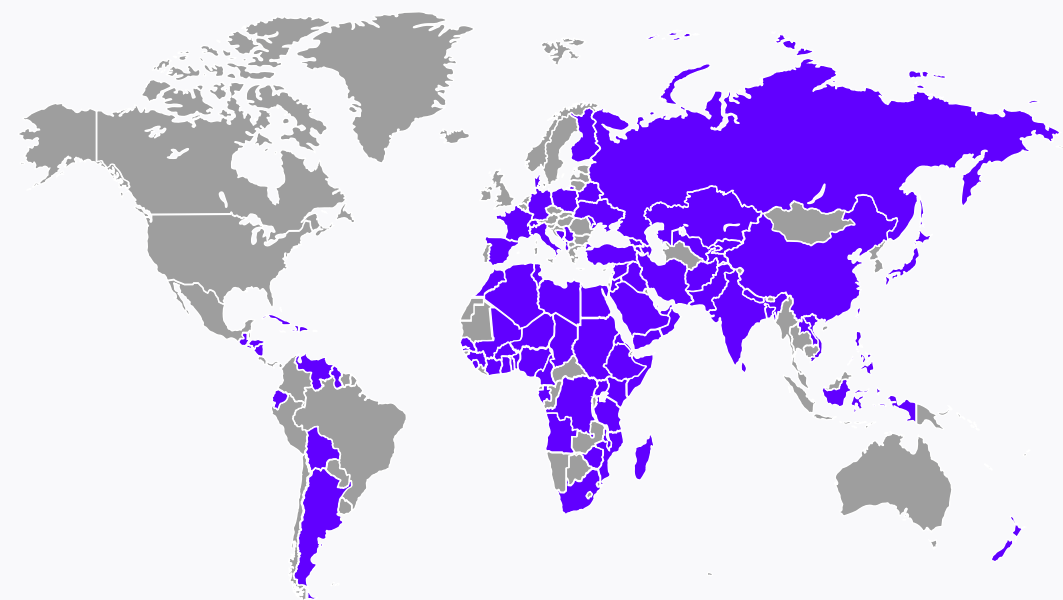


Figure 4. Visualisation of top 100 international wholesale voice termination markets, ranked by annual value, telegeography, April 2023, (for volumes and rates see appendix 1).

- 1.3 Within the total market, the Global Wholesale Voice Carrier Market size was valued at USD 30.7 billion in 2022 and is poised to grow from USD 35.34 billion in 2023 to USD 108.85 billion by 2031, with a CAGR of 15.1% across the forecast period (2024- 2031). <sup>[12]</sup> This is due to the shifting preference of telecom providers from traditional data and voice service to wholesale voice carrier services. <sup>[13]</sup>
- 1.4 Wholesale carriers share of terminated traffic exceeded 87% of total South American volume, 86% within Sub-Saharan Africa, and over 56% of all voice call traffic to Western Europe. <sup>[14]</sup>
- 1.5 The international telecommunication voice calling industry has been re-shaped by VOIP <sup>[15]</sup> and OTT <sup>[16]</sup> technologies. Innovations such as WhatsApp, Viber, and Zoom have bypassed traditional Public Switched Telephone Networks (PSTN) <sup>[17]</sup> altogether, creating new data-based closed systems, where application users can call each other for free.
- 1.6 Despite the rise of VOIP behemoths like WhatsApp, who disrupted the international industry with free OTT intra-application calls, the continuing wholesale termination segment represents a resilient, large-scale opportunity, ripe for disruption and reconfiguration.



## 👁️ 2. Least Cost Routing (LCR) <sup>[18]</sup>

- 2.1** Least Cost Routing is a telecommunications industry-standard process, used by all carriers when determining which wholesale routes and providers should be utilised to terminate call traffic within acceptable quality parameters, at the lowest possible cost.
- 2.2** Carriers accredit a portfolio of wholesale interconnections enabling them to terminate their customers' calls all over the world. Each wholesaler offers a unique selection of routes and rates subject to their regional location and market position. Wholesale prices encapsulate the total supply chain cost structure including the end-market's regulator-determined minimum termination cost.
- 2.3** The wholesale routes and prices are automatically ranked within the LCR system, prioritising the available routes in ascending cost order. The originating carrier then attempts to route the call via the lowest cost route, seamlessly trying each route in turn until a suitable, available option is established and the call connects.



Figure 5. The international wholesale telecoms call journey pre and post Minutes Network deployment.

- 2.4** The proprietary Mintech Revenue Turbine (MRT) is engineered to create a structural economic advantage over other wholesale operators.
- 2.5** The MRT ensures Minutes Network will always be ranked as the lowest price option on every LCR table and has the first opportunity to pass traffic for every carrier with whom it is interconnected.



## 3. Bringing DePIN to paid-for voice call telecommunications

### Introduction

- 3.1** Minutes Network’s new hybrid DePIN solution integrates legacy telecommunications operations with new proprietary technologies, mobile applications and the blockchain. By so doing, it has created a new species of telecommunications termination carrier: decentralised, borderless, blockchain-enabled, digital IP-based, and virtual. It has also created a telecommunications-revenue based sharing economy.
- 3.2** The Mintech Rapid Growth Library (MRGL) integrates with large-scale mobile applications, enabling the rapid integration of a mobile application’s entire user-base, turning the application into a mini mobile network. Minutes Network’s ambition is to have over two-billion integrated users by 2030.

### Interconnections

- 3.3** Minutes Network’s hybrid solution provides originating carriers with the lowest call termination rates in the market. Across 2022, Minutes Network completed its technical proof of concept by terminating in excess of one million minutes. The Minutes Network proposition is being positively received by carriers world-wide and this is evidenced by an ever expanding list of interconnected carriers and their partners.













Minutes Network Interconnections							
	<p>The world’s largest international mobile virtual network operator with over 16 million customers and a new customer joining every two seconds. Lyca Mobile offers low-cost, high-quality data and voice services across 23 countries.</p>		<p>Our vision is to be the leading provider of VOIP services ranging from simple Voice and SMS connectivity, right up to being the experts that can be counted on for providing Revenue assurance and Value added solutions for any sized customers.</p>		<p>Skype software enables millions of individuals and businesses to make free video and voice one-to-one and group calls, send instant messages and share files with other Skype users. Paying customers can call phones and send SMS.</p>		<p>SyigmaTel is one of the well-recognized carriers in the Middle East focused on providing international and domestic Voice, Data and Signaling services, technologies and platforms.</p>
	<p>Lebara strives to keep people connected, affordably, by offering market-leading value and flexibility to consumers. Outside of the UK, you will see Lebara in Germany, France, Denmark and the Netherlands, and in Spain, Switzerland, Saudi Arabia and Australia (brand licence agreements). Altogether it is the brand of choice of 5 million and rapidly growing customers across the world.</p>		<p>Next Communications, Inc. provides telecommunications services. The Company offers long-distance voice, data, and video services for wired and wireless telecommunications carriers, as well as provides tech support, technology equipment, and outsourcing. Next Communications serves clients worldwide.</p>		<p>IDT Corporation (NYSE: IDT) is a global provider of fintech and communications services through a portfolio of synergistic businesses. IDT Global and IDT Express enable communications services to provision and manage international voice and SMS messaging.</p>		<p>Digitalk offers cloud-based communications platforms that enable telecommunications service providers to manage real-time voice routing, billing, and service deployment efficiently. Their solutions, like Carrier Cloud and Mobile Cloud, support wholesale carriers and mobile virtual network operators (MVNOs) by providing scalable, reliable tools for rapid service launch and operation.</p>
	<p>PCCW Global is a leading telecommunications provider, offering the latest voice and data solutions to multi-national enterprise and communication service providers.</p>		<p>Oman’s first and leading integrated telecommunications services provider.</p>		<p>WorldCall Telecom Limited (WTL) is the most reliable and unique telecom and multimedia service provider in Pakistan.</p>		<p>Creating a world where everyone, everywhere is connected. World Mobile is the first mobile network built on blockchain and the sharing economy.</p>

Figure 6. Minutes Network Interconnections

## Mobile Application Partners

**3.4** By sharing the revenues derived from the voice-call traffic terminated over their platforms, Minutes Network presents a brand-new, incremental, revenue stream for mobile applications. MRGL interacts in a non-invasive, totally secure and GDPR compliant manner, with no impact on the mobile application’s user experience or existing revenue generation streams.

**3.5** Minutes Network has now signed a number of agreements with mobile application partners, notably [Smart Energy Water](#), which alone will bring over 1.2 billion users to Minutes Network over the next two years.

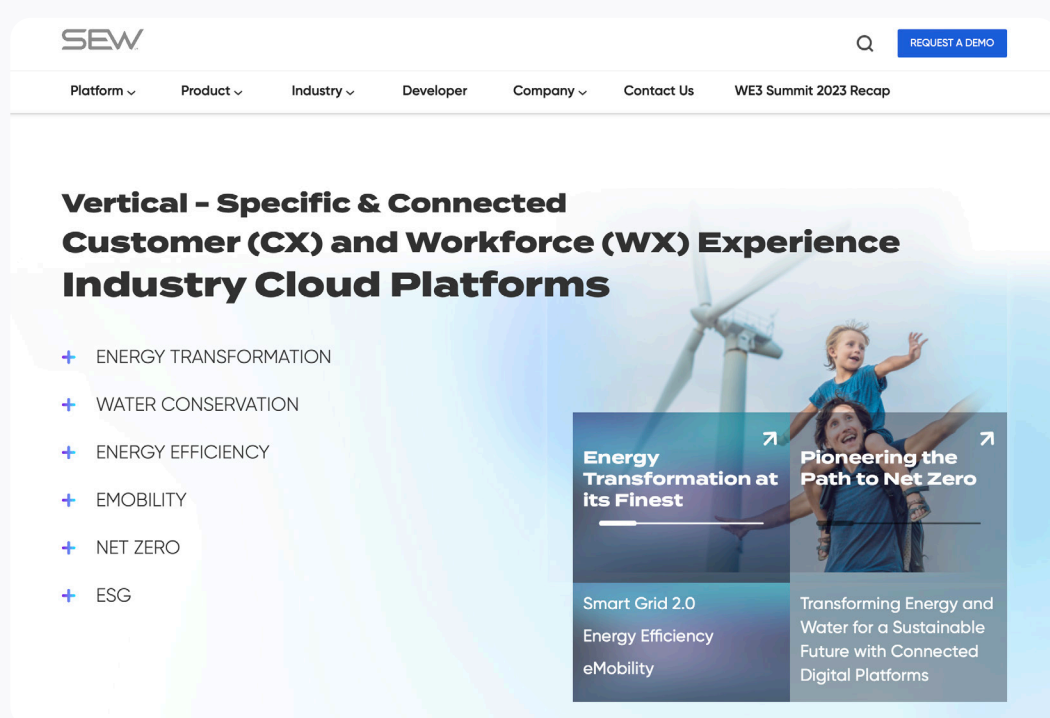


Figure 7: Smart Energy Water (<https://www.sew.ai/>)

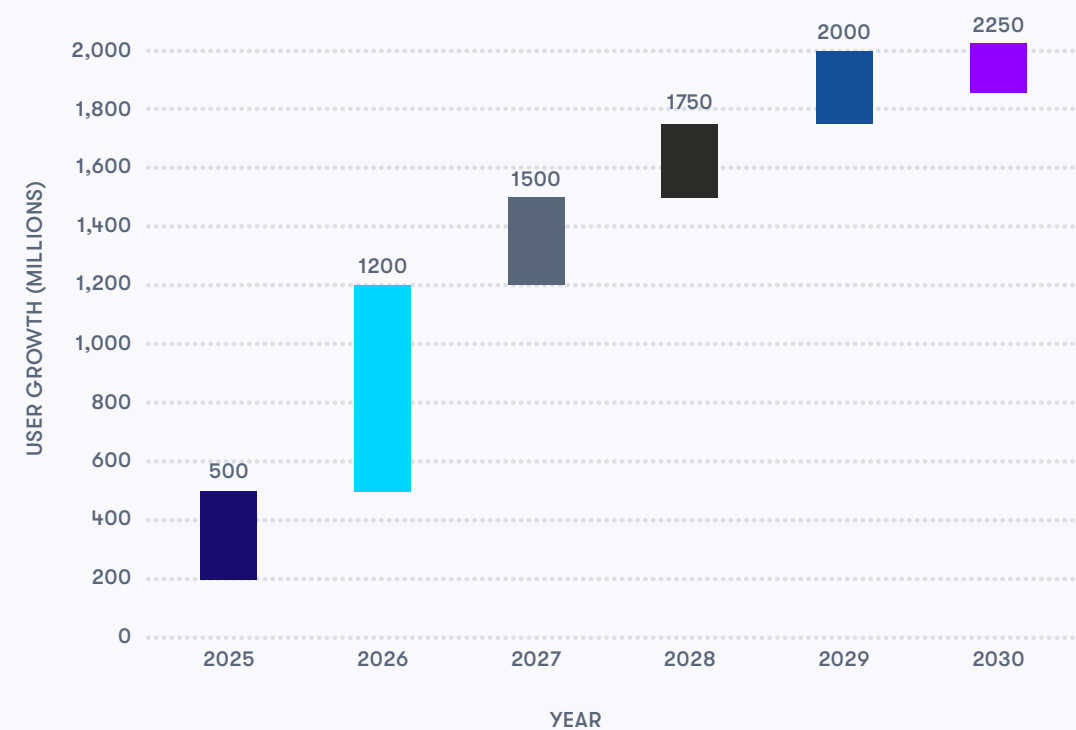


Figure 8: Minutes Network projected user growth forecast 2025-2030 (in millions)

## 4. Minutes Network Technologies (Mintech)

### Introduction

**4.1** Mintech is responsible for bringing forward Minutes Network’s breakthrough telecommunications technologies and protocols for commercial deployment.

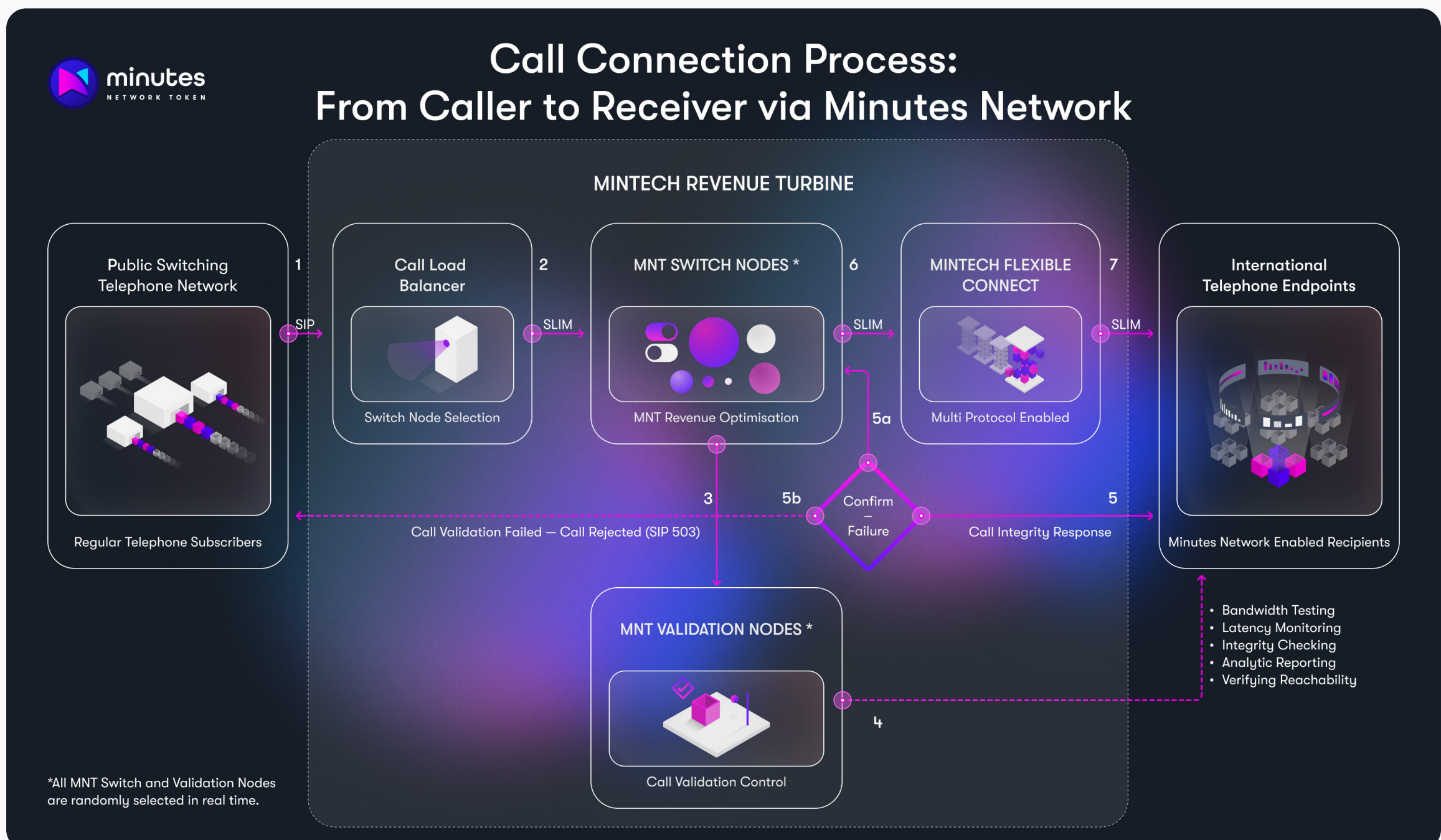


Figure 9: Mintech Operating System (<https://minutesnetworktoken.io/discover/mintech-technologies>)

**4.2** The Mintech Operating System deploys three protocols to allow Minutes Network to be the sole telephone call switching interface:

**4.2.1.** The global-standard Session Integration Protocol (SIP) <sup>[19]</sup> to interconnect with traditional carriers worldwide.

**4.2.2.** A proprietary closed source protocol to connect to termination endpoints.

**4.2.3.** A proprietary open-source protocol for internode communication.



## MINUTES NETWORK TECHNOLOGIES (MINTECH)

### MINTECH REVENUE TURBINE (MRT)

The MRT is the engine driving Minutes Network's profit generation capabilities. The MRT algorithms optimise the costs and profitability on all calls allowing Minutes Network to provide the lowest calling costs to carriers, whilst extracting the maximum value from every connected call.

### MINTECH FLEXIBLE CONNECT (MFC)

MFC is a proprietary toolkit that enables Minutes Network to interact with a broader range of telecommunication protocols and devices than any other competitive solution.

### MINTECH DEVELOPMENT SANDBOX (MDS)

The MDS is the centre of Minutes Network pre-production and ensures a continuous stream of forward innovation.

### MINTECH REWARDS GENERATOR (MRG)

The proprietary MRG protocol allows Minutes Network to seamlessly move net revenue from its telecommunications operations over the blockchain to algorithmically purchase MNTs for reward distribution.

### MINTECH RAPID-GROWTH LIBRARY (MRGL)

The MRGL seamlessly transforms scale mobile applications into virtual telecommunication carriers by integrating the Minutes Network SDK into their platform. This simultaneously provides Minutes Network with access to millions of users at pace.

### MINTECH ANALYTICS SUITE (MAS)

The MAS provides tailored analytics solutions for all key participants in the Minutes Network ecosystem, comprising the Nodes Analytics Portal (NAP) and the Originating Carrier Portal (OCP). The NAP provides Infrastructure Operators with a bespoke control panel to monitor and manage node performance, alter their staked levels and collect rewards. The OCP provides originating carriers their own insight and analytics platform to manage their operational performance on the network and settle their accounts.

Figure 10: Minutes Network Technologies (Mintech)

## 5. Infrastructure Nodes

**5.1** The Minutes Network Nodes provide the critical DePIN infrastructure that allows Minutes Network to terminate voice traffic over a stable global platform.

**5.1.1.** 500 **Switch Nodes** provide sufficient capacity to terminate up to 72 million minutes of traffic per day.

**5.1.2.** 2,500 **Validation Nodes** serve to monitor and maintain the health and integrity of Minutes Network, to ensure the traffic quality meets and exceeds carrier performance requirements. Whilst 2,499 Validation Nodes are available for private acquisition, one node is being reserved to enable the provisioning of delegated staking for non-node holders.

**5.1.3.** There is no upper limit to staking on any Node.

**5.2** All MNT Nodes are available for staking. The only way to own a Minutes Network Node is through staking MNT tokens.

**5.2.1.** Switch Nodes minimum staking threshold: 50,000 MNT.

**5.2.2.** Validation Nodes minimum staking threshold: 10,000 MNT.

**5.3** The Nodes can be hosted as managed solutions, or self-hosted and Node GUI access is provided. When self-hosting the minimum hardware requirement is:

Switch Nodes	Validation Nodes
<p>DEDICATED HARDWARE</p> <p>2.4GHZ INTEL OR AMD CPU WITH MULTIPLE CORES</p> <p>240GB SSD</p> <p>100MB NIC</p> <p>MODERN LINUX KERNEL</p> <p>16GB RAM</p>	<p>VIRTUALISED OR DEDICATED HARDWARE</p> <p>2.4GHZ INTEL OR AMD CPU</p> <p>240GB SSD</p> <p>100MB NIC</p> <p>MODERN LINUX KERNEL</p> <p>8GB RAM</p>
Minimum Threshold MNT Stake	
50,000 MNT	10,000 MNT

Figure 11: Switch Nodes Validation Nodes hardware

**5.4** Infrastructure operators benefit from 70% of all MNT epoch rewards.

**5.4.1.** 10% is awarded solely to Node holders with each Switch Node receiving 0.01% of the reward pool and each Validation Node receiving 0.002% of the reward pool. These awards are attributable to all 3,000 Nodes but are only executed for Nodes that have been staked by a singular owner during the entire Epoch. Any Nodes that are or become unstaked during the Epoch will have their rewards burned.

**5.4.2.** 60% are shared between all stakers and are subject to the algorithmic burn.

**5.5** Once the initial minimum thresholds are met, Infrastructure Operators can choose to stake additional tokens to maintain or increase their proportionate share of the total circulating supply.



## 6. MNT Tokenomics

- 6.1** MNT is the proprietary product of Minutes Network Token LLC, a company incorporated and registered in St. Vincent and the Grenadines, company number 095LLC2022.
- 6.2** Whilst ownership of tokens gives holders rewards-based access to products and services on favourable terms, it confers no rights as to equity, decision making or control of Minutes Network Ltd or Minutes Network Token LLC. As such, we characterise the token as an unregulated utility token. As a by-product of the token's commercial value, we expect that they will be readily tradeable on secondary markets.
- 6.3** The total MNT supply is capped at 500 million and all will be released algorithmically over the course of the 60-months following the Token Generation Event closing.

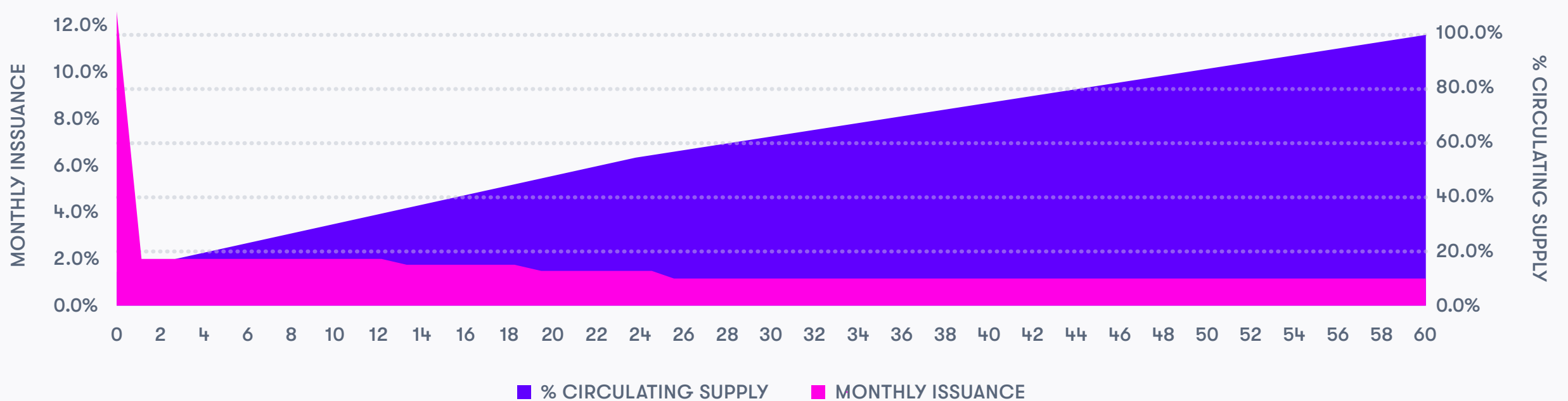


Figure 12: MNT Emissions over first 60 months of operation

- 6.4** MNT will roll out on the Ethereum blockchain as an ERC20 token utilising:
- 6.4.1.** Ethereum (L1) blockchain to decentralise and distribute telephony infrastructure and create the reward-based sharing economy.
  - 6.4.2.** World Mobile Chain's as a traceability layer for the cost-effective settlement of data.
  - 6.4.3.** WMC's multichain architecture to perform rollups on other public blockchains (L2) containing the hash of the data published on WMC serving as the trust layer.

**6.5** The initial MNT distribution is as follows:

CATEGORY	ALLOCATION (%)	MNT (Millions)
TEAM	23.5	117.5
ADVISORS	3.5	17.5
PRIVATE SALE	2.5	12.5
PUBLIC SALE	10.0	50.0
WMT HOLDERS AIRDROP	2.5	12.5
OPERATIONAL FUND	15.0	75.0
EARLY NODE STAKING REWARDS	7.5	37.5
NETWORK EXPANSION	35.5	177.5
<b>TOTAL</b>	<b>100.0</b>	<b>500.0</b>

Figure 13: MNT initial allocations

- 6.5.1.** 23.5% of the total supply is held by the Minutes Network team. These tokens are released algorithmically over the first 60 months of network operation post the Token Generation Event. This ensures team’s alignment with the long-term objectives of all token holders.
  - 6.5.2.** 2.5% of the total supply has been allocated to World Mobile Token Holders and will be airdropped after the Node sale has concluded.
  - 6.5.3.** 7.5% of the total supply has been allocated to fund Early Node Staking rewards which will be distributed over the first 24 months of full network operation. Each staked Switch Node will receive an extra 1,562.5MNT monthly for 24 months and each staked Validation Node will receive an extra 312.5 MNT over the same period. If any Nodes remain unstaked, the reward allocation they would have received will be burned.
  - 6.5.4.** 35.5% of the Total MNT supply is held in a Network Expansion pool to facilitate strategic activities that significantly expand the Minutes Network in terms of carrier capacity, user growth alliances and secondary market coverage. Minutes Network Token LLC, retains the right to burn all or part of any portion of this pool that remains unallocated after the first 60 months of sharing economy operation, or on the passing of the two-billion user milestone.
- 6.6** MNT utility is derived from two sources: Node Staking and a new Sharing Economy. All Minutes Network’s net revenue will be used to purchase MNTs for distribution to staking economy and sharing economy participants. All rewards will be trackable and accessible from within the MNT Portal.

## Node Staking Economy

- 6.7** Switch & Validation Nodes provide the critical infrastructure that enables Minutes Network to terminate voice-call traffic and validate its core telephony network in a distributed and decentralised manner.
- 6.8** MNTs are the only vehicle by which Switch and Validation Nodes can be staked and through which stakers are rewarded for provisioning network capacity and security.
- 6.9** MNT Nodes receive rewards from a pool comprising 70% of all MNT epoch rewards. 10% is awarded solely to Node holders with each Switch Node receiving 0.01% and each Validation Node receiving 0.002% of the total reward pool. These awards are attributable to all 3,000 Nodes but are only executed for Nodes that have been staked by a singular owner during the entire Epoch. Any Nodes that are or become unstaked during the Epoch will have their rewards burned.

The remaining 60% is subject to an algorithmic MNT burn. Beyond the minimum threshold stakes required to secure Minutes Network Nodes, ongoing, staking will be dynamic with Node Holders determining their optimal staking positions.

- 6.10** We provision a central Validation Node to allow MNT holders who are unable to acquire Nodes to participate in Node economy.

## Minutes Network Sharing Economy

- 6.11** Whilst Minutes Network provides the lowest termination charges to carriers, we have no means of ensuring these discounts benefit consumers.
- 6.12** To remedy this, every caller and callee using Minutes Network shares in the MNT token reward programme with 15% of all rewards being allocated to network users.
- 6.13** The MNT Portal also hosts its own international outbound web-caller allowing consumers to make the lowest cost international calls over Minutes Network with MNTs being the sole payment methodology.
- 6.14** Minutes Network also receives 15% of all rewards to support continued network innovation and product enhancement.

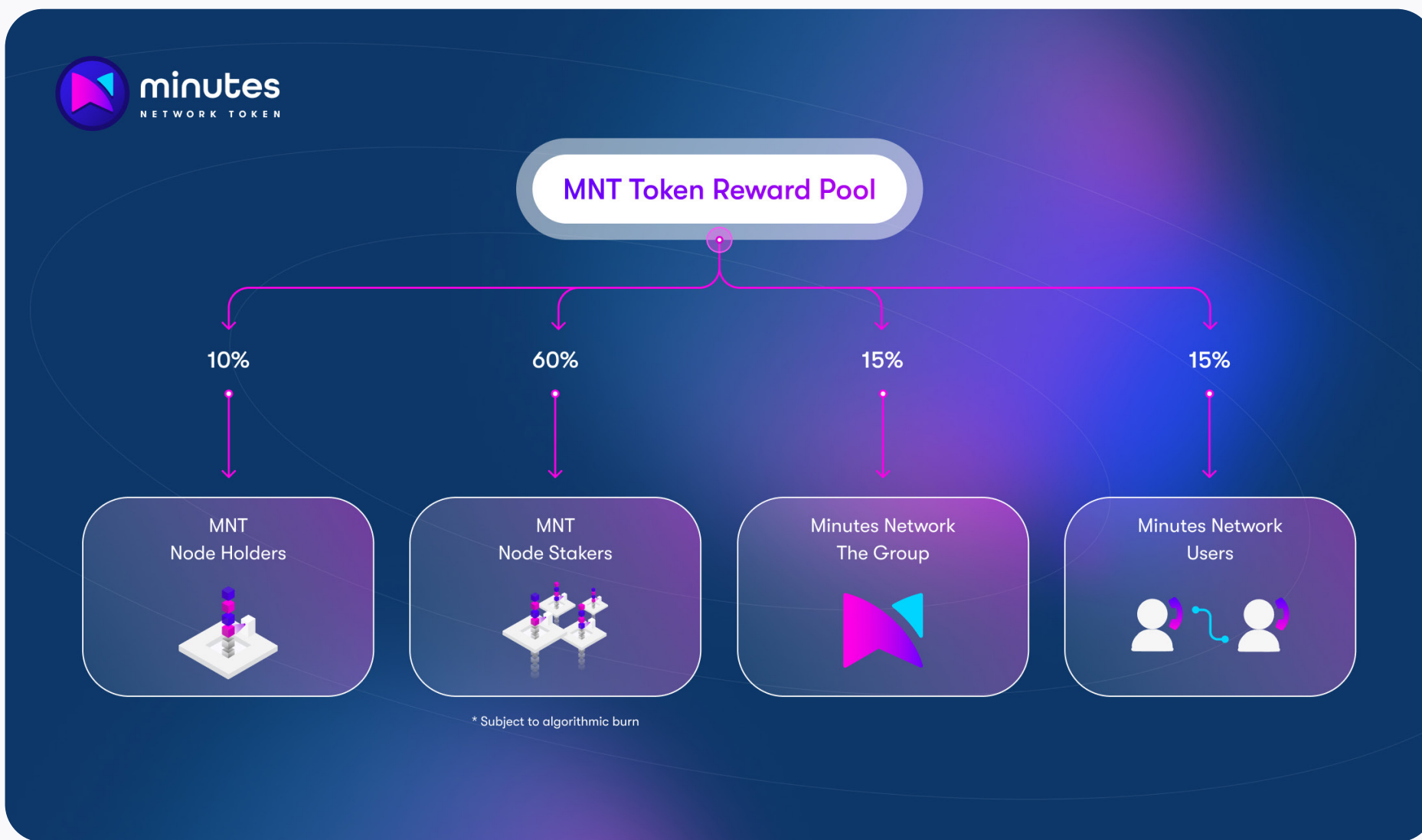


Figure 14: MNT Reward Distribution Model.

## Staking Economics

**6.15** Staking is the primary utility function of the Minutes Network Token.

**6.16** Each Node is eligible for rewards based on this stake provided the minimum staking requirement is maintained.

**6.17** Those Staking, but who fail to perform, are removed from any distributions, in proportion to their time offline.

**6.18** Staking and reward distributions are dynamic and are affected by the total MNT circulating supply, total, cohort and individual staking decisions.

## Staking Minima

**6.19** There is a minimum staking requirement to secure Minutes Network Infrastructure Nodes:

TYPE	MINIMUM MNT	#NODES	TOTAL STAKE MNT	% SUPPLY
SWITCH	50 000	500	25 MILLION	5%
VALIDATOR	10 000	2 500	25 MILLION	5%
<b>TOTAL</b>			<b>50 MILLION</b>	<b>10%</b>

Figure 15: Infrastructure Operator staking minimum Stake per Node

**6.20** 70% of all rewards are allocated to Node holders and stakers. 10% is awarded solely to Node holders with each Switch Node receiving 0.01% and each Validation Node receiving 0.002% of the total reward pool. These awards are attributable to all 3,000 Nodes but are only executed for Nodes that have been staked by a singular owner during the entire Epoch. Any Nodes that are or become unstaked during the Epoch will have their rewards burned. The remaining 60% is subject to an algorithmic MNT burn, with the final balance of MNT rewards being distributed between Node stakers on a pro-rata basis. Beyond the minimum threshold stakes required to secure Minutes Network Nodes, ongoing, Node staking will be dynamic with Node holders and stakers determining their optimal staking positions.

## Delegated Staking

**6.21** People who wish to participate in staking without owning a whole node may delegate their tokens to the public Validation Node. This node operates and is accorded rewards as all other Validation Nodes in the network. However, 50% of all rewards are burned and the remaining 50% shared between the delegated stakers.

## Algorithmic Burn

**6.22** An algorithmic burn is applied to the 60% pool of Node Staking rewards. There are no manual or orchestrated buy-backs of MNT, and the burn rate is dynamically determined relative to the relationship between the total circulating supply and the proportionate level of staking. The calculation establishes the proportion of tokens that are unstaked and halving it to determine the % by which the 60% pool will be reduced. Tokens delegated to the public Validation Node are included in the calculation of the total MNT staked. Tokens released from the Network Expansion Pool are excluded from the Total Circulating Supply unless and until they are allocated for a specified purpose. User rewards are also excluded until they are claimed and any unclaimed User rewards will expire and be burned after 60 months from issuance. The burn is executed algorithmically via smart contracts.

## Reward Cycle

**6.23** Minutes Network uses 100% of its net revenues to purchase Minutes Network Tokens on the open market every month. These are allocated to be distributed as rewards to Node Holders (10%) Stakers (60%), Network Users (15%) and Minutes Network (15%).

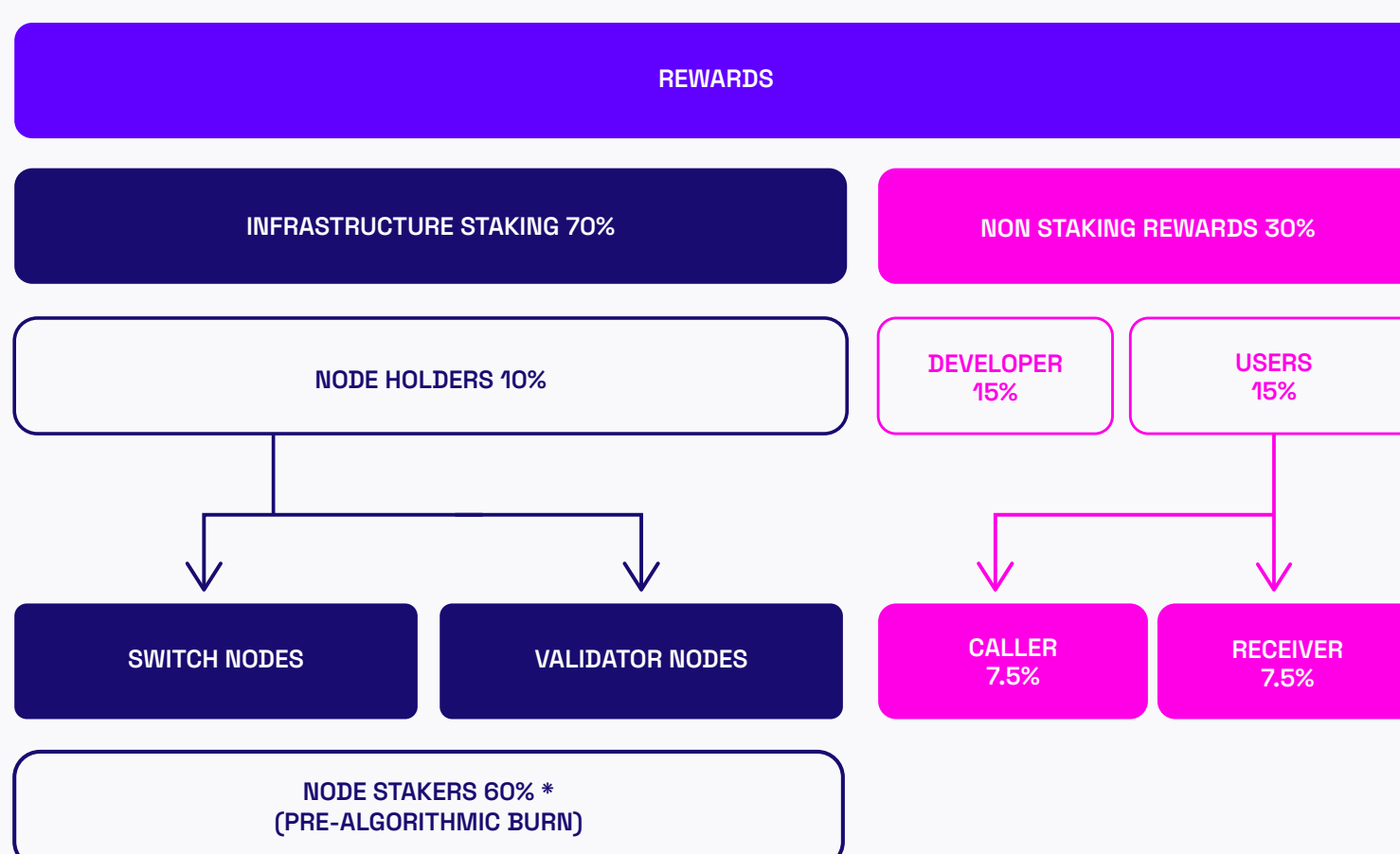


Figure 16: MNT Full reward cycle



- 6.24** MNT tokens acquired via the buy-back activity are then distributed as rewards to participants in the network, who are either providing infrastructure services, developing network capability or to those using the network for calls who are rewarded for their usage.
- 6.25** Once the algorithmic MNT burn has been applied, the tokens for distribution are then allocated between stakers in proportion to their contribution to overall staking.
- 6.26** MNT User rewards are shared equally between call originators and receivers. Each phone number appearing in either group is weighted according to the total call revenue and accorded that proportion of the total rewards allocated to the user cohort. A user can feature within and benefit from distributions in both elements.
- 6.27** 37.5 million MNTs have been allocated to provide early staking rewards over the first twenty-four months of network operation which will be awarded incrementally to the monthly reward pool distributions.
- 6.28** This means that over the first twenty-four months an additional 1,562,500 MNTs will be distributed to stakers on a pro rata basis.



## 7. Summary

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- 7.1** MNT is the proprietary token of Minutes Network, a new decentralised telecom operator whose ecosystem represents a genuine collaborative breakthrough utilising new technologies, mobile applications, the blockchain and the creation of a new telecommunications-based, sharing economy.
- 7.2** Leveraging the \$251 billion paid-for voice calling market, Minutes Network Token (MNT) is a real-world, commodity-industry based token with unlimited reward potential.
- 7.3** MNT leverages scarcity: there is a capped total supply of 500 million MNT. There are only 3,000 infrastructure operator positions available for staking although non-node holders are able to delegate their tokens.
- 7.4** All net revenues from Minutes Network are converted into MNT rewards and distributed monthly to network participants and infrastructure operators.
- 7.5** The MNT business model features a dynamic staking model for infrastructure operators incorporating Buy-back, Burn and Distribution elements. It also provides delegated staking opportunities for the general public.
- 7.6** Infrastructure Operators and stakers share from 60% of all MNT rewards subject to an algorithmic MNT burn.
- 7.7** Infrastructure Operators additionally receive:
  - 7.7.1.** 10% of all rewards which are no subject to the algorithmic burn
  - 7.7.2.** 37.5 million Early Node Staking rewards over 24 months, equivalent to 75% of the initial token stake if nodes are held over the full distribution period.

# Appendix 1

Figure 7: Top 100 international wholesale voice termination markets 2021, ranked by annual value: source www-telegeography.com April 2023 [25]

TELEOGRAPHY (APRIL 2023)	TOTAL WHOLESAL MINUTES (Millions PER YEAR)	TOTAL WHOLESAL \$ (Millions PER YEAR)	TELEOGRAPHY (APRIL 2023)	TOTAL WHOLESAL MINUTES (Millions PER YEAR)	TOTAL WHOLESAL \$ (Millions PER YEAR)
PHILIPPINES	4,956	\$486	GERMANY	5,706	\$93
MALI	1,253	\$440	ETHIOPIA	595	\$91
ALGERIA	1,132	\$407	BANGLADESH	9,066	\$89
CHINA	12,180	\$406	BOSNIA-HERZEGOVINA	663	\$88
U.A.E	3,340	\$402	MOLDOVA	480	\$86
UKRAINE	2,518	\$329	IRAQ	561	\$86
TUNISIA	615	\$315	FRANCE	4,568	\$85
TURKEY	2,162	\$287	MALAWI	248	\$80
INDIA	25,613	\$249	BOLIVIA	617	\$77
HAITI	761	\$249	CAMEROON	297	\$76
NEPAL	1,931	\$219	GEORGIA	362	\$76
SWITZERLAND	1,751	\$215	NICARAGUA	464	\$73
CUBA	375	\$214	JORDAN	543	\$72
HONG KONG	4,643	\$200	GUINEA	233	\$69
SENEGAL	1,131	\$196	INDONESIA	2,346	\$65
UGANDA	751	\$179	FINLAND	332	\$64
ALBANIA	749	\$178	TAIWAN	960	\$63
BURKINA FASO	597	\$169	KENYA	683	\$61
EGYPT	2,335	\$167	VIETNAM	1,133	\$54
RUSSIA	3,224	\$161	MOZAMBIQUE	392	\$53
TAJIKISTAN	1,222	\$152	BAHRAIN	594	\$51
PAKISTAN	5,040	\$132	SERBIA	168	\$50
SYRIA	718	\$132	BELARUS	172	\$50
ZIMBABWE	496	\$132	ANGOLA	457	\$49
UZBEKISTAN	2,102	\$130	ITALY	3,327	\$49
DOMINICAN REPUBLIC	1,683	\$125	TOGO	196	\$48
NIGER	655	\$123	NIUE	17	\$48
NIGERIA	2,146	\$119	OMAN	304	\$47
GAMBIA	343	\$117	JAMAICA	316	\$46
POLAND	4,915	\$116	SOUTH AFRICA	1,024	\$42
ECUADOR	937	\$114	ERITREA	239	\$41
SAUDI ARABIA	1,308	\$114	AFGHANISTAN	445	\$40
LEBANON	524	\$112	QATAR	308	\$39
CONGO, DEM. REP.	477	\$109	MONTENEGRO	121	\$39
GHANA	661	\$109	LIBYA	173	\$38
CONGO, REP.	267	\$107	GABON	126	\$38
SIERRA LEONE	314	\$107	GUYANA	178	\$38
GUATEMALA	1,221	\$107	MONACO	117	\$38
KYRGYZSTAN	674	\$106	TANZANIA	162	\$35
AZERBAIJAN	474	\$102	NEW ZEALAND	863	\$35
HONDURAS	994	\$102	MADAGASCAR	84	\$35
SUDAN	848	\$102	LAOS	575	\$33
SRI LANKA	903	\$101	NETHERLANDS	1,739	\$32
CÔTE D'IVOIRE	448	\$100	MACAU	192	\$32
YEMEN	819	\$100	KAZAKHSTAN	243	\$31
BENIN	435	\$98	VENEZUELA	785	\$30
ARMENIA	577	\$98	SOMALIA	86	\$29
CHAD	263	\$97	ARGENTINA	635	\$28
IRAN	709	\$951	SPAIN	2,535	\$28
MOROCCO	2,107	\$95	JAPAN	634	\$27
EL SALVADOR	1,248	\$93			

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