

# Ludena

## PROTOCOL

**Gamified Social Platform  
for Worldwide Gamers**

—— **Whitepaper** ——

ENG Ver 2.0

Last updated July 2021

# White Paper

## Ludena Protocol provides a gamified social platform for worldwide gamers

The LDN token rewards users for platform engagement with fellow participants. Our 3 million strong community boasts the ultimate gamer-focused social ecosystem and offers the three major segments of the gaming industry exclusive benefits:

### Players

Discover or upload helpful game strategies, hints and tricks and receive fair rewards for all kinds of engagement; Can easily find or sell rare and special game items in the world's first fee-free virtual goods marketplace; Get matched with new friends to play fun and simple games with on Ludena's 1:1 hyper casual gaming platform.

### Game Publishers

Marketing dollars are targeted, no longer wasted, and result in real ROI effectiveness, through in-game purchases and driven player growth, due to our accumulated 1TB+ of user analytics and our 7 years of proven marketing successes.

### Indie Game Developers

Our platform is an ideal solution for indie game developers, who want to reach a large audience, without paying exuberant commission fees, and who want to drive in-game spend, as our token economy design encourages.

# Executive Summary

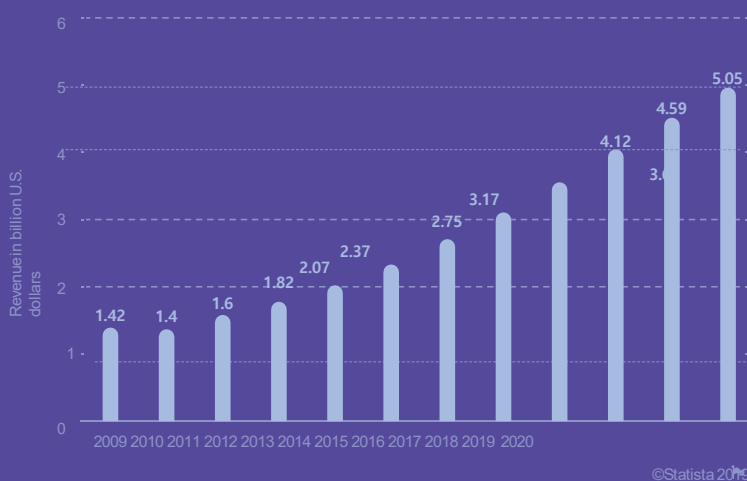
Ludena Protocol is the first comprehensive gamified social platform, connecting gamers, from around the world, to a single application where they can play, trade and share all things gaming with one another.

The Ludena Protocol team is made up of a group of professionals, who have been operating the 3 million user strong gaming social media application, 'GameTalkTalk,' for 7 years. During their history, they have made a significant number of partnerships with influential stakeholders in the gaming industry. The team has discovered the market challenges faced by all players in the industry, including gamers, publishers, and indie game developers. To solve these problems, they have identified an advantageous method of changing the gaming industry's paradigm by introducing blockchain.

The total number of game players around the world is growing explosively. In 2019, the average number of users in the gaming market reached 2.4B, an increase of 8% per annum. Not only do people enjoy playing games themselves, but they also enjoy sharing their experiences with various games on multiple social media platforms. While this user-generated content is a central pillar of the game industry's growth, users do not receive as much compensation as the value they add to the market through their produced content.

**At present, the worldwide gamer community totals 2.4B and is growing by 8% each year.**

Game publishing also requires a marketing solution to bring an increasing number of game users towards their game offerings. Organic user content is becoming more and more influential and to marketers, but it can mean good or bad news. Undoubtedly, game publishers welcome and enjoy the benefits from free, word-of-mouth marketing efforts made by their advocates. On the other hand, with the uptick in massively available information, marketing methods have become much more complex and tedious, in turn, driving the costs up extraordinarily with disappointing results in terms of reach.



Video game ad spend is up **500%** in the last 10 years and increasing.

For indie gaming companies, this costly fact has become overwhelming to their bottom lines. They have failed to keep up with the marketing efforts of larger developers due to low capital and lower brand equity. One option to overcome this difficulty, is for smaller firms to latch on to industry giants, who take on the marketing task, usually, at a 12-30% commission for platform distribution fees. Although this method is not very attractive for indie developers' return, many times there is no alternative.

For the gamers they do reach, enjoying such games with others can prove challenging to its initial userbase. Some people even find it difficult finding teams to join that allow them to enjoy much more popular online games. Others are simply looking to meet new people with similar interests in a fresh, lighthearted setting. All of these are examples of the pain points faced by gamers in present day.

The Ludena protocol is based on three business values (decentralization, opportunity, and interdependence) to ensure that any gaming-related activities are fairly compensated, that game publishers' games are effectively marketed and that favourable development environments are being offered to indie game developers.

#### **Decentralization**

Automatic and fair compensation for social engagement, with a structure not managed by any specific entity.

#### **Opportunity**

Gamers will be rewarded for all their gaming activities & developers have the ability to access a massive community to target their marketing efforts efficiently.

#### **Reciprocity**

Data obtained from members in the gaming ecosystem leads to gaming content production, which benefits all levels of platform users.

Until now, many blockchain projects had solid ideas, but failed to acquire a sizeable number of users to maintain their project's attractiveness. Ludena Protocol has an established community of over 3 million gamers and will expand this community's global reach, increasing its appeal across all industry stakeholders.



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# 1. Industry Dynamics



# 1. Industry Dynamics

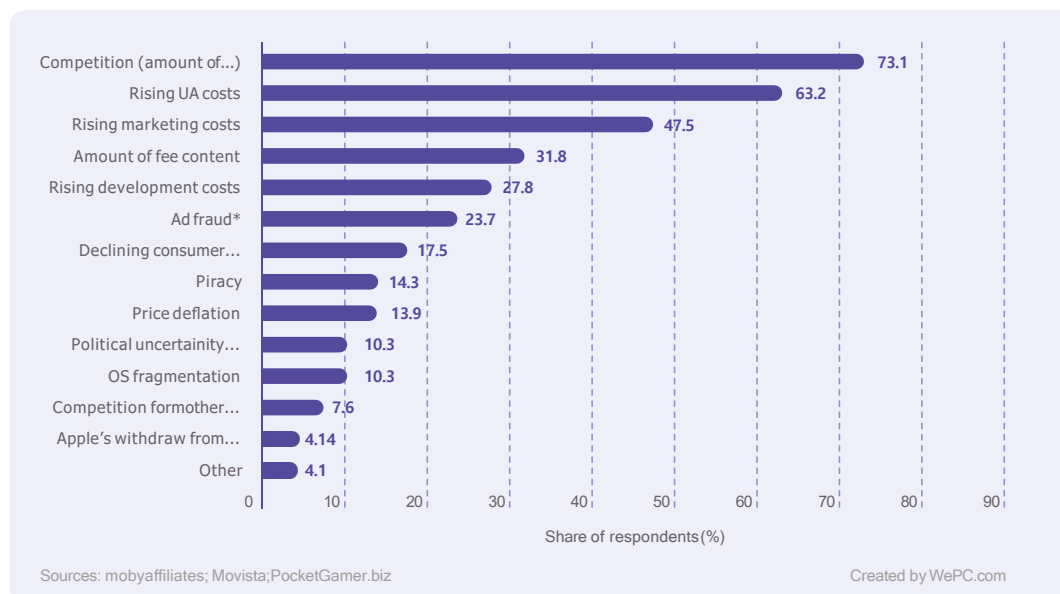
Gaming has, somewhat surprisingly, become one of the most consumed forms of entertainment present day. As of 2019, one-third of the global population play video games on at least one platform, a massive increase from 2003, where less than 8% of the population made up that figure. The industry shows no sign of stopping, as estimations show upward trends in consumption rates for the next five years, at minimum. The main driver of this trend is the increase in smartphone adoption, which offers a potential handheld gaming device to its owners.

## 1.1 Game Developers

In 2016, mobile gaming revenues surpassed both PC and console.

Mobile gaming is a \$65.8B industry and revenue increases 25% year over year. These facts have created an oversaturation of game choices in the market. Due to this steep competition, traditional marketing channels are overflowing with advertisements for these games in an effort to attract organic users. In short, too many developers are spending a fortune in the hopes to make a fortune from their mobile games. Despite their efforts, however, many game publishers see their marketing dollars wasted through multiple channels, as it becomes increasingly difficult to target specific gamers.

### The Challenges of Mobile Games Business According to Game Developers Around the World (as of fall 2017)



Mobile gaming has risen in tandem with social media use. More and more people not only like playing mobile games, but they enjoy telling their followers about them as well. With so many new influential mediums disrupting traditional marketing avenues, efforts to reach organic audiences and build or maintain brand reputation have become even more tedious.

In the past, game developers were able to achieve some organic growth from simply posting their game in the Google Play or App store. Due to the influx of game availability, this is no longer a viable option, meaning that indie game developers need to come up with a workable ad spend budget for their That leaves indie developers with little choice but to offer up their creations to large publishers who take a hefty percentage of generated revenues.

## 1.2 Game Item Trading Market

**In 2016, mobile gaming revenues surpassed both PC and console.**

If the game takes off, however, it may all be worth it. The mobile virtual trading market is a \$55B industry in itself and this figure is expected to grow to \$189B by 2025, however there is still no solution available to counter the risk associated with these virtual item purchases. Many item exchanges continue to be riddled with fraudulent or fake items, in addition to imposing high fees to the participating buyers and sellers. By incorporating blockchain technology, many of these issues can be eradicated, but even exchanges who have done this, continue to charge exuberant transaction fees and have failed to reach significant user levels.

## 1.3 Blockchain/Crypto Gaming Market

Blockchain gaming really took off in 2017. At that time most games focused on gambling, encouraging players to place bets from their own cryptocurrency reserves or play rudimentary games to earn increments of Bitcoin, etc. In the end, many of these games failed to maintain a loyal audience due to the minuscule jackpots and overall risk.

Although many blockchain game developers have since tried to learn from the mistakes of their predecessors, many games have slowly died out due to concerns with lack of scalability, speed and usership. Game developers from around the world, however, still try to create the next big hit in blockchain gaming. In response to the uptick in blockchain game developers, several blockchain gaming publishing platforms such as Enjin and Arcadeum. The underlying problem, as with most blockchain projects and as the gaming market is generally afflicted with, is the difficulties with user acquisition.



## 2. The Game Changer



## 2. TheGame Changer

### 1. The Ludena Protocol Solution

Ludena Protocol is a gamified social platform for worldwide gamers. It will provide multiple solutions for today's gaming industry inefficiencies. There are three parties who can receive unprecedented benefits from the platform: Game players, game publishers and indie game developers.

#### 2.11 GamePlayers

Ludena Protocol's established mobile application GameTalkTalk has seen massive domestic success over the past 7 years, since its launch. GameTalkTalk users, who are primarily from the Korean market, have been sharing massive amounts of gaming information amongst themselves and being rewarded for such activity with in-app digital assets or "stars." These stars can be accumulated and exchanged for either virtual items, such as Google play store gifts cards or in-game items or tangible items, such as convenience store goods or menu items at Dominos Pizza. The app boasts several leaderboards to encourage increased engagement. Most importantly, game developers challenge our users with in-game missions or quests, where, once completed, the users are rewarded with massive amounts of stars.

To best illustrate how GameTalkTalk works for the average user, we offer you an example. A game publisher submits a quest for GameTalkTalk users. The quest demands that a user reach a specific level within their third-party game. The user who completes the quest will receive thousands of tokens as a reward. The user takes those tokens and redeems them for their choice of a multitude of items within the "Star Shop" and that is simply how we pay users to play.

Ludena Protocol wishes to incorporate this ecosystem on the global, DApp version of GameTalkTalk. However, the app will boast added features, such as a fee-free digital item exchange and a P2P hyper casual gaming platform in order to increase usership, engagement and user satisfaction levels for all ecosystem participants. Ludena Protocol discovered a need in the gaming industry for a virtual gaming goods marketplace free of transaction fees and free of worry from fraudulent sales. Harnessing blockchain technology and smart contracts, our platform is able to ensure that users' item ownership is authentic and that users can trade amongst one another without paying any fees whatsoever.

One of the pains for many gamers today, as global societies move to more individualistic ones, is finding fellow gamers to play with. Ludena Protocol will offer a precise solution to this problem. Our P2P gaming platform matches gamers with real-life opponents to play exciting, addicting, hyper-casual games against each other. Every time the user enters a new match, they will be automatically pitted against a new opponent.

This opponent will, by default, be a member of the opposite sex, from anywhere around the world. Settings can be changed to select gender and country to match with. This platform will allow users to speak to each other while they play and will automatically add each opponent to a historical friends list. Although rematch options will be available, users will have the option to message anyone from their friends list through a chat system equipped with emoticons and virtual gifts that can be purchased with Ludena Protocol's LDN coin. Whether it be to find a team to play with for a popular console game or even finding an opponent for a super simple mobile game, playing against or with a real person is always more fun than playing alone.

## 2.12 GamePublishers

As the gaming population continues to rise, so does the amount of available gaming options. That being said, the most convenient option has become mobile games, since over two thirds of the globe carry at least one smartphone. With a potential gaming console in many people's pockets, game publishers have been competing with one another, fiercely, to make the next big mobile hit. Once a new game is launched, however, these game publishers face their most difficult task, finding organic players.

Ludena Protocol is the answer to publishers' pain points. With over 1TB of accumulated user big data, publishers can analyze and market specifically to their game's prime demographic. GameTalkTalk already has proven track record of success with this business model. Massive global brands such as Blizzard Entertainment and SEGA use our application to promote their games and grow their brands in the Korean market. Ludena Protocol wishes to scale this business model to a global userbase, helping match gaming companies to high quality gamers, meaning: Gamers that will actually increase in-game spend and have high daily play times. When publishers promote incentives through challenging and fun quests on our platform, this can greatly increase their chances of this and marketing dollars are not wasted, as is often the case this day and age.

## 2.13 Indie Game Developers

With so many avenues available to easily develop mobile games, game developers flooded the app stores hoping to be the next big hit. However, time and effort were more often than not unrewarded and, so, many developers have lost the incentive to move forward with their ideas. For those who did push on with development, once completed these ones were faced with either massive marketing costs or unfair commission fees from publishers. Many great game ideas have not seen the light of day because of these obstacles. Ludena Protocol will provide solutions to indie game developers for these high marketing costs, high publishing fees and difficulties in attracting high quality users.

Ludena Protocol will offer smaller game developers the opportunity to publish their hyper casual mobile

games on its P2P gaming platform. Upon launch of its global version, developers will reach a potential audience of 3 million gamers. The commission rate will be significantly more affordable as well, at a whopping 3-5%, compared to the 12% minimum industry standard. Promotions on the platform to incentivize users, which can drive game growth, can also be much more beneficial to these indie developers than wasting marketing budgets on traditional, result-less mediums.

## 2.2 Blockchain Gaming Platform Solution

There are currently several gaming platforms available in the blockchain space. The following is a table of how Ludena Protocol's solution stacks up in offering comparison

	Ludena Protocol	Engine	MixMarvel	Refereum
Symbol				
Vision	Comprehensive Gaming Platform	Gaming Community Creation Platform	Game Publishing	Game Marketing (Referral)
Token Ticker	LDN	ENJ	MIX	RFR
Platform Smart Contract)	Luniverse (Mainnet)	Ethereum (ERC-1155)	Ethereum	Ethereum
Target Game	All Game	Blockchain Game	Blockchain Game	All Game
Initial User Acquisition	3M in Korea	X	X	X
Creating Incentive	O	X	X	X
Gamify Reward	O	X	X	X
Indie Game Support	O	O	X	X
SDK/API	O	O	X	O (SDK, Unity)
Wallet	O	O	O	O
Item Trading	O	O	O	O



# 3. Ecosystem Makeup



## 3. Ecosystem Makeup

Ludena Protocol's influence structure is a decentralized automatic algorithm based on level achievements that rewards gamers for creating platform content and playing games. Level variation is based on xp acquired through content creation or from providing feedback, playing hyper casual games on the gaming platform or participating in events put on by game publishers. Each gamer can receive tokens equivalent to their level as compensation.

### 3.1 Decentralization

Incentives paid to users under the Ludena Protocol are not managed by any specific organization and aim to provide an automatic and fair reward system for ecosystem participation. The Ludena protocol allows users to trust that their content will be rewarded with tokens through automated algorithms that measure level structure, xp rewards, up & down voting content and level up boosting.

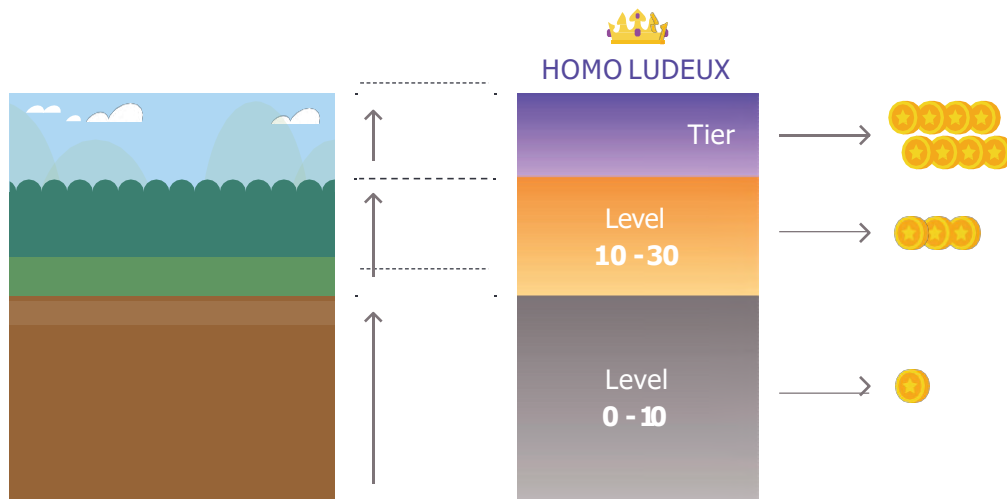
#### 3.11 LevelStructure

Levels in the Ludena Protocol ecosystem are divided into two stages: Normal and Tier stage. The normal stage starts from level 0 and maxes out at level 30. Before reaching the top level, users will be rewarded with xp, not Ludena tokens (LDN), for their activities throughout the ecosystem. After a user reaches level 30 from earning xp, they then move to what we call 'Tiered levels.' There are five tiers, the top being called: Tier 5. Each tier will receive an assigned value of Ludena token rewards on an ascending scale. In order to level up in the tier level, it will require a certain amount of xp, which will vary at each stage, similar to leveling up in the normal stage.

Homo Ludeus, is a Latin term for God-like and is a level that is unattainable for most in the ecosystem. Users at the tier 5 level, the top tier, can be elected to Homo Ludeus through votes from other users in the ecosystem. Once voted to be "Homo Ludeus" level, these users can organize and vote on key rules regarding the operation of the ecosystem. The benefits of achieving this level are the monetary rewards associated with it. Homo Ludeus users are responsible for creating blocks in the chain, by adding data related to social activities onto it. Upon completion of these actions, a certain level of mining compensation must be provided to such users. The specific percentage of the token they mined is immediately given to the miner, and the rest is transferred to the Homo Ledeus pool for compensation purposes.

Levelling-down is also possible in two ways, after users achieve the tier stage. First, a certain amount of xp is deducted daily, after the user does not have any in-app activity for one week. Second, the accumulation of

negative feedback on content created can result in a deduction in xp. Content created that receives this negative feedback resulting in losing xp, can have been uploaded while the user was in either the normal or tier stages.



### 3.12 Xp Reward System

Performing a variety of fun activities within the Ludena Protocol ecosystem will result in the granting of xp or experience points. The following are the activities that will give users these points.

<b>Decentralization</b>	Uploading content such as videos or written information (strategies, hints, etc.) within the platform will grant users a certain amount of xp.
<b>Opportunity</b>	Any engagement on fellow users' posts (i.e. liking, sharing or commenting, etc.) will also result in an allotment of xp. However, the amount of xp will depend on how much engagement a post has already received. For example, if a user adds "likes," "shares" or "comments" to a post that already has 700 likes, they will not receive as high of an xp reward as a user who liked a post with 14 likes.

### 3.13 Up &Down Voting Posts

If the user just wants to be active in the community through simple engagement, it may be more tedious to move up in the ranks. In order to level up faster users should post their own content, or at the very least, post comments on other users' content. After reaching level 10, they will have the ability to upvote or downvote posts.

### Upvoting Structure:

Every level has different power of voting capability. For example, tier 1 level users have a power of 40. This means that they will be able to upvote community content a total of 40 times each 72 minutes. After that 72-minute period, their power refreshes by 1%.

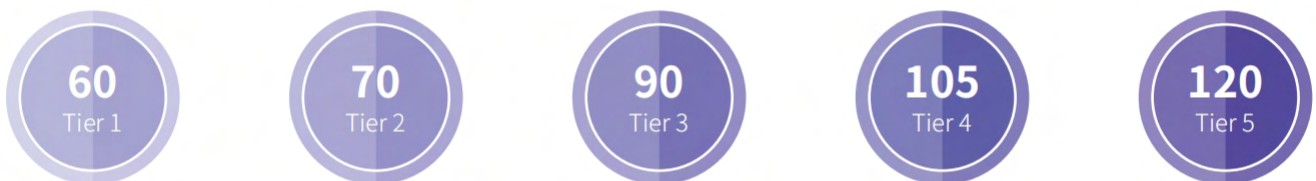


### Downvoting Structure:

The total ability or power to thumbs-down or downvote content is granted to users at level 10 or higher. This means that, for example, they will be able to down vote community content a total of 10-30 times each 72 minutes. After that 72-minute period, their power refreshes by 1%.



Once the tier level is reached, tier 1 level users have a power of 60, and so on. This means that they will be able to downvote community content a total of 60 times each 72 minutes. After that 72-minute period, their power refreshes by 1%, as with other levels.



For any single post, a user can only up or downvote once, however the vote can be changed from down to up or vice versa. At the Homo Ludeus level, users have unlimited power or instances to downvote, in order to manage the ecosystem's content.



### 3.14 Boosting

For those users who wish to level up faster, there is a “Boosting” function to do just so. That function is powered by purchasing xp with LDN. Users are able to boost their levels up between levels 1 and 30, but not to reach a higher level than 30. LDN consumed to take advantage of the boosting function will be accumulated in the reserve and compensation pools and can be used for future rewards.

### 3.15 Token Reward

**Level Reward** If the user is at the tier stage, they can receive increased or extra rewards. Five percent of the social compensation pool will be divided into six at the end of each month and paid out equally to each level stage. These rewards are paid out at the end of each month and will be subject to the users’ level at that time, regardless of their level at the start of the month.

Formula:

The amount of tokens that each tier's users receive is:

$(\text{number of tokens assigned to each tier}) / (\text{number of gamers at said tier})$

※ The higher the tier, the lower the number of users, resulting in a higher amount of tokens distributed to a single high level gamer.

**Social Reward** Content Creation and feedback are eligible for Token Rewards independently of XP Rewards. Social Rewards' Variable Factor consists of posts in units.

$$\text{Social Reward} = \frac{\text{Social reward token per Period} \times \frac{\text{\# of recommendations given to the corresponding post}}{\text{Sum of the number of recommendations for all posts}}}{1}$$

Users who receive rewards for creating content on the social platform will receive 75% of the total social reward and users who gave feedback will receive 25%.

### 3.2 Opportunity

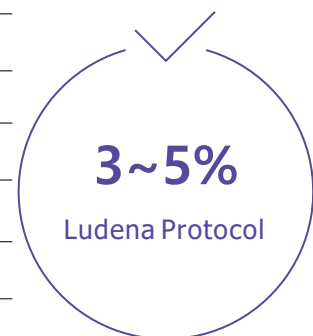
Both gamers and indie game developers have the opportunity to earn compensation for their activities in the decentralized Ludena Protocol, based on its influence structure. Gamers can choose to complete a game publisher's in-game quest and in return they can earn rewards for acting out whichever mission was laid out for them. Indie game developers can follow suit, enticing users with LDN, based on Ludena's compensation pool, which will be elaborated on in further detail in the following sub topic. Through Ludena Protocol's platform, indie game developers have an opportunistic chance to expose their game to many potential new players.

#### User Compensation: Game Play

Game publishers can offer LDN to users as compensation for completing in-game missions or quests or even pre-registering to download an unreleased game. These entities have full control over the compensation structure and the details of the steps required to receive said compensation. Once users successfully complete the instructions laid out for them by the publishers, the game developers are required to compensate completed missions as advertised.

#### Indie Game Developer

Device	Platform	Commission (%)
PC	STEAM	30%
	EPICStore	12%
	Humble Bundel	25%
	ITCH.io	Developer choice
Console	GOG	30%
	Microsoft Store	30%
	Xbox Games Store	30%
	Nintendo eStore	30%
Mobile	Apple	30%
	Google Play Store	30%
Other	Mart	30%



Indie game developers can offer game rewards to users on a similar condition as game publishers, without having to endure the high costs of traditional publishing platforms through the Ludena ecosystem. LDN

accumulated in the compensation pool of the ecosystem are paid out to cover the rewards offered to users who play published indie games on the Ludena Protocol platform. LDN provided to such game developers in the compensation pool is calculated by summing the number of users, number of recommendations, and amount of activities during the period of the indie game's availability on the platform. The developer withholds the rights to design its own LDN compensation structure and is required to follow through with the amounts it promised to participants.

### 3.3 Reciprocity

Among the data generated from the Ludena ecosystem, any items that are transaction-related are recorded in the Luniverse main chain in the form of Tx, while other, less important, data is recorded on the side-chain. All inputted data is disclosed transparently due to the nature of the blockchain. Gamers and developers participating in the Ludena ecosystem can view this data and use it for decision making, etc.

Within the escrow system, users can easily trade virtual items amongst one another. Ready access to our digital item marketplace can bring about and/or encourage increased token liquidity and will play an important role in understanding the economic scale of the Ludena Protocol ecosystem.

#### User Database

Records derived from content creation, feedback, game play or item trading are stored and reveal only the level of personal information that can identify a user, such as a username. In fact, the data stored in the blockchain is not large-capacity, such as images, videos or long text. Those items are stored in a corresponding database. Data stored on the blockchain is data related to key activities.

### 3.4 Virtual Item Trading

#### P2PEscrow System

Ludena Protocol will initially offer the same escrow system. In the future, however, escrow will be provided using smart contracts, a blockchain platform technology. Ludena Protocol's escrow comes with no complex procedures and at a lower cost than traditional centralized methods (free of charges on Luni-verse).

Items that can be traded with escrow can also be used to broker transactions of other items used in games, including those that can be played on Ludena Protocol's gaming platform, unless there are special trade sanctions imposed by game developers. Our lack of transaction fees encourage trade and make it easier for gamers to reveal their consumption activities, adding to our store of valuable big data and gamer analytics.

#### Non-Fungible Token (NFT)

Ludena Protocol plans to support escrow service using non-fungible tokens in the future. While each LDN token will be homogenous, as is the nature of utility tokens, the non-fungible tokens will be completely heterogeneous from one another, with even the slightest difference in information to make it unique. Since fungible tokens are simply a medium of trade it is difficult to include special data on the token itself. In contrast, non-fungible tokens, which can still be used for trade, stores specific and unique data that makes its trade require a higher involvement to determine its value. Users can trade NFTs on our virtual item exchange and we hope to offer exclusive assets alongside our list of partners and gaming clients.

#### Derivative Data Trade

Ludena Protocol's upcoming item exchange's trade data are lucrative gamer behaviour statistics, expected to be sought after by our client game companies and marketing firms. The scale of transactions within the ecosystem will demonstrate its purchasing power and if attractive enough, it can give potential new clients the incentive to enter the Ludena ecosystem as well. We are truly confident that the NFT business and virtual items market is on the rise and really hope to attract a sizeable amount of users with the addition of this vertical. In the future, we would like to include this exchange and its big data as another means of client satisfaction and can foresee that this will be used as a basis for decision making even for Ludena Protocol's management strategy.



# 4. Business Model & Strategy

## 4. Business Model & Strategy

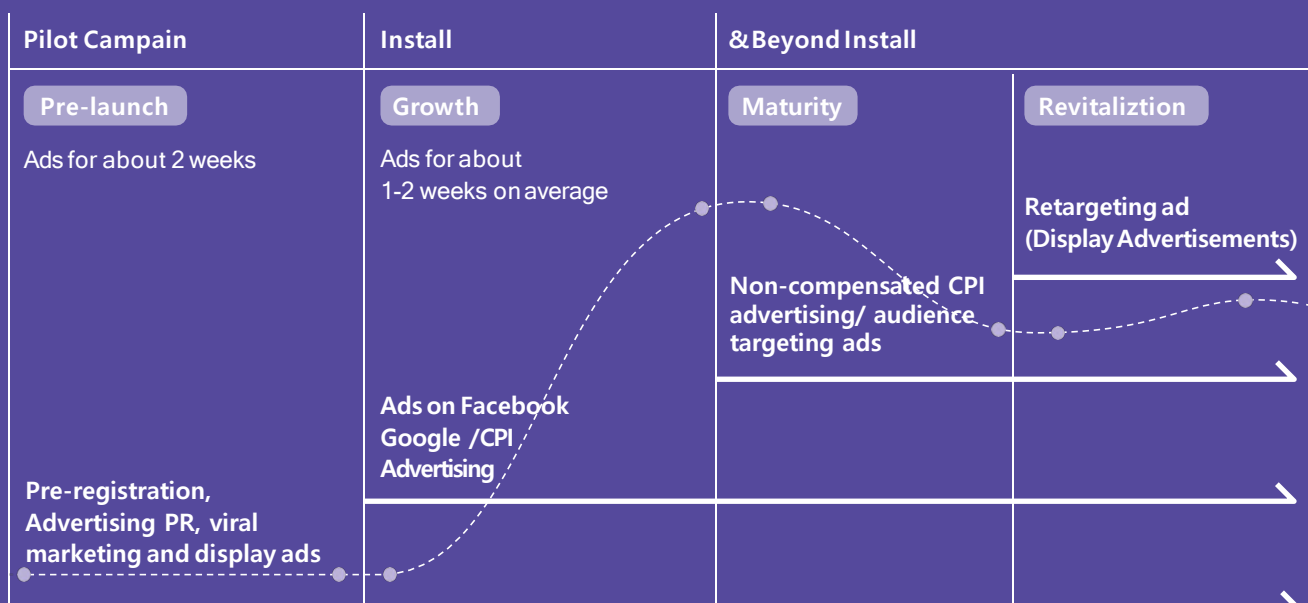
Ludena Protocol's ecosystem is comprised of three separate business models: Mobile advertising (B2C), game marketing packages (B2B) and digital item sales (B2C). During the immediate stage after launch, these three business models will focus first on the Korean market, fitting to the established user base. Eventually, these business models will scale to other new, international markets, on a country by country approach.

### 4.1 Business Models

After playing a hyper casual game on the Ludena Protocol gaming platform, previous opponents will have the option to contact one another post match through the provided chat service embedded in the system. Within that service, there will be options to gift other users with virtual items, designed in-house by the Ludena team. These items will cost 'x' amount of LDN to purchase and result in 100% profit model structure for Ludena Protocol.

Within the games themselves, indie game developers have the option of selling in-game boosts or items. Such virtual items will need to be purchased using the LDN token. Ludena Protocol will take 10% of these sales from the game developers.

#### 4.1.2 Ad revenue



Average game life cycle and corresponding marketing strategy - IGAWorks

The figure above shows a table of the average game's lifecycle, which is divided into four stages: Pre-launch, growth, maturity, and revitalization. At the bottom of the graphic, it depicts optimal marketing strategies which correspond to each stage of the lifecycle. The strategies to be used for Ludena Protocol are the "Pre-registration" (Registering to download a game before its release) and "Banner display advertising."

#### 4.11 P2P Gaming Platform

##### **Banner Display Advertising**

Ludena Protocol's mobile application will include banner ads, open to all advertisers, using services by Google and Facebook. In addition to in-app banner ads, Ludena Protocol will display lock-screen ads. This means that even if the app is not open, the service will be running in the background of users' smartphones. At regular intervals, the users' lock screens will display an advertisement instead of their original lock-screen wallpaper. Users have the option to opt-out of the lock-screen type of advertisement setting, should they choose. For users who autonomously allow lock-screen ads to run on their phones, once they successfully "see" an ad by simply unlocking their phone, they will be rewarded with xp in return.

#### 4.12 Game Marketing Packages

##### **Pre-Registration**

Game publishers offer incentives to users who pre-register to download their new game in the Google Play or App store before launch. This is a common practice in the industry to build hype for an unknown game. Typically, users who sign up to "pre-download" a mobile game will get a coupon to use for special game items, etc. Game publishers pay Ludena Protocol to have these pre-launch download incentives advertised to its userbase. Upon Ludena Protocol's ecosystem's successful establishment, it will provide opportunistic incentives to its userbase through, but not exclusive to, the aforementioned methods. However, to reiterate, Ludena Protocol does not directly control gamers' activities or intervene in derived compensation activities. Pre-registration or game pre-order incentives from publishers are to be marketed to Ludena Protocol's user base in a dedicated tab within the app and additionally through banner display or lock-screen ads. Interested game publishers will need to pay Ludena Protocol directly in LDN tokens to market to the user base and showcase their new games to them, with the intention of acquiring organic users. Gamers autonomously make the decision to accept such incentives. When users complete the activities outlined for them by the game publishers, they receive their reward in

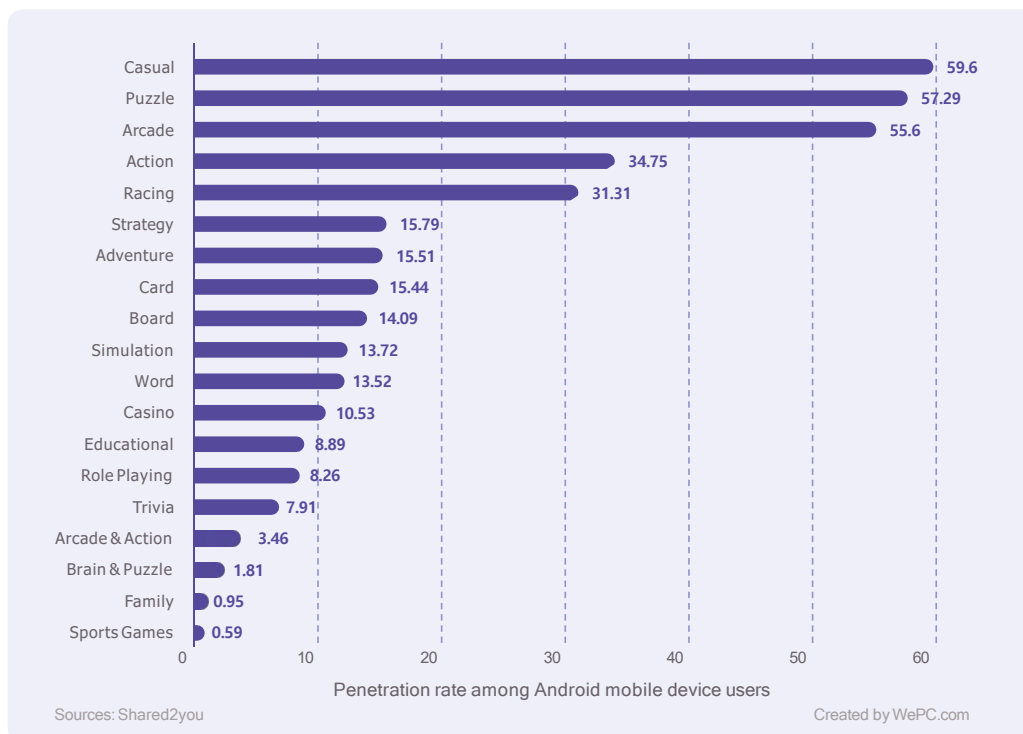
LDN tokens. Considering the initial user base of the ecosystem, it is expected that this will create synergy between the users and publishers participating on the platform. the activities outlined for them by the game publishers, they receive their reward in LDN tokens. Considering the initial user base of the ecosystem, it is expected that this will create synergy between the users and publishers participating on the platform.

## 4.2 Growth Strategies

### 4.2.1 Hyper Casual Game Platform

The ultimate goal of Ludena Protocol, is to link up gamers to fellow gamers and provide a platform where users can casually and easily have fun while fulfilling a need of connecting with new friends! Many people want to make new connections in a way that feels organic and not forced. We want to provide a medium where even light gamers will see the Ludena gaming platform as an opportunity to make new friends from around the world. The ecosystem benefits from these new connections through increased platform engagement and the sales of virtual gifts.

#### Worldwide Market Reach of the Most Popular Android Gaming App (September 2017)



## 4.22 YouTubeChannel

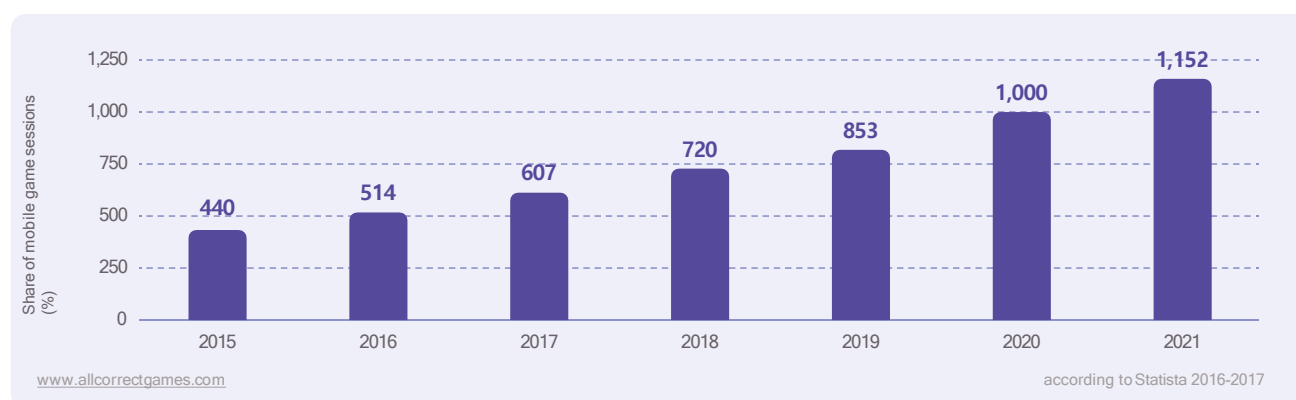
Ludena Protocol's inaugural DApp, GameTalkTalk, runs a Korean language YouTube channel, which it began in late 2016. The channel has grown to over 90,000 subscribers and has a 200% year over year growth rate. This channel provides promotional content for games that interest GameTalkTalk users. Ludena Protocol is making efforts to grow this channel by increasing content creation frequency and by reviewing analytics to make more appealing videos. The YouTube channel is a secondary strategy to drive viewers to download the app.

## 4.23 Overseas Expansion Strategy

We plan to launch the global, DApp version of GameTalkTalk in 2020. To start, Ludena Protocol will focus on Southeast Asian nations that are heavy consumers of hyper casual mobile games. In our research we have found that countries such as Indonesia, Vietnam and India seem to be the most fitting for our target demographic. However, successful foreign expansion successfully requires a heavy investment in marketing. To avoid that exuberant cost, we have formed some local partnerships with massive entities which have an influential footprint in our initial launch countries.

Indonesia is slated to be our primary target market due to a strategic partnership formed with Indonesian FinTech firm, ABCC (Asia Business Convention Center), a mobile application with a network of 170 million members. This entity is connected with the country's government-backed banks, government-backed telecom operators and is widely trusted nationwide. Ludena Protocol will be featured prominently on the app through banner ads, displaying various sign-up or download incentives. Any profits received from users that originated from the ABCC application will be shared.

### Revenue in the Mobile Games market, million USD



Forecasted revenue for mobile gaming market in Indonesia



# 5. Technology



## 5. Technology

Ludena Protocol is currently in its technological development stage. The ecosystem will consist of a HTML 5 gaming platform, an embedded crypto currency wallet and will run using the Luniverse blockchain.

### 5.1 Present Day Technical Issues

The following will illustrate some technical issues associated with the operation of large scale blockchain networks and will justify Ludena Protocol's choice in technical support systems.

Bloating	<p>The blockchain links every new block to the previously created one to form a chain. For consensus algorithms, all nodes must store data for every block that is created. At network launch, the amount of data that each node must store is incremental, but over time, the amount of data that builds up on each node increases exponentially. This requires additional auxiliary memory to be installed on existing nodes, and new nodes will require significant initial input costs. This acts as a load to the network and increases the cost of maintenance.</p>
Throughput (Scaling)	<p>Essential to a public-facing network with a server-client structure is computation/processing/response rates. When a client sends a request, the slower it takes for the client (customer) to commit to the request and to respond to the commitment, the more inconvenience the client (customer) will experience in using the service.</p> <p>The response and commitment rate in a blockchain network is called TPS or transactions per second. TPS is the number of transactions that can be processed per second. Bitcoin consensus is roughly 7TPS, whereas Ethereum is around 15-20TPS. If the number of transactions per second is only between 7 and 20 on a platform with tens of thousands of concurrent users, the bottleneck of multiple concurrent users can paralyze the network for a long time. Therefore, high TPS is essential for reliable service operation.</p>
Realization	<p>Most importantly, is the time needed to complete the development of that blockchain network. If you've raised funds, but it takes years to actually implement, it's too late for the trend, and it's not cost-effective. Blockchain projects need to be able to quickly implement the detailed services of their intended blockchain network.</p>

## 5.2 Ludena Protocol's Blockchain Service Platform

### Luniverse



Ludena Protocol has decided to harness the power of the Luniverse blockchain service platform (BaaS) developed by Lambda 256, the research arm of Upbit's parent company Dunamu. Luniverse uses the PoA (Proof of Authority) algorithm, which grants authority to 25 block creators and has speeds of up to 2000TPS with no gas fee.

Customers who want to use the Luniverse platform can create side chains based on several nodes provided by the entity, upon token issuance on its mainframe.

The following benefits arise from the usage of this platform:

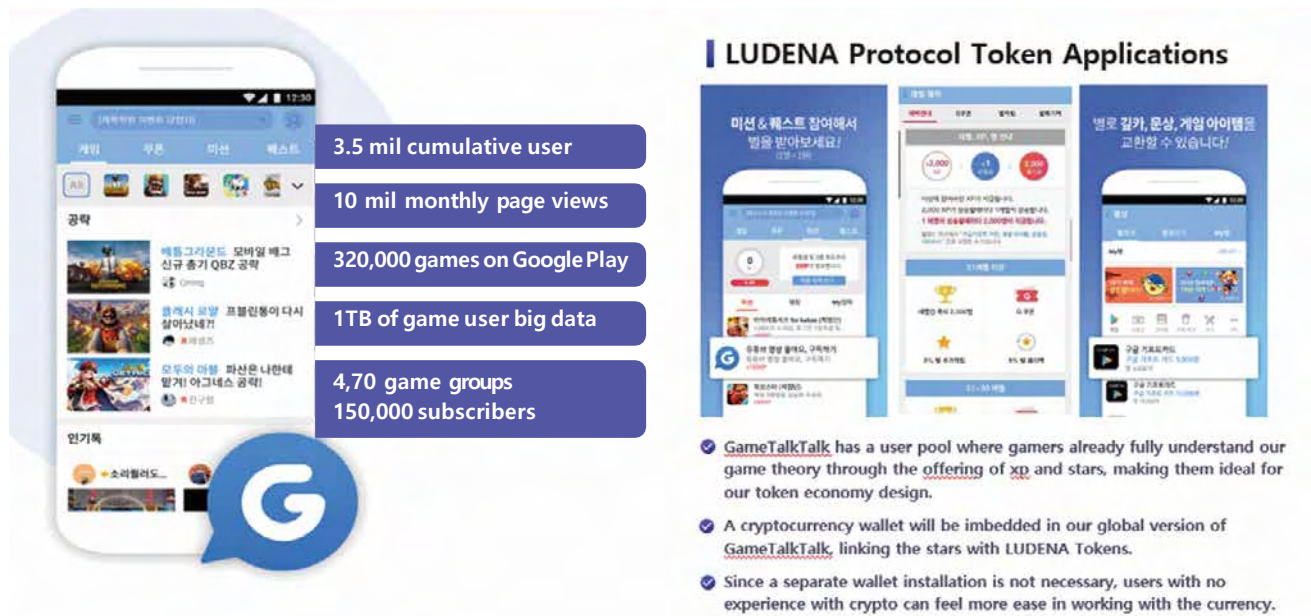
- i) All activities that gamers perform on the platform are recorded publicly as Transaction ("Tx"), providing reliable data for gamers to ensure that the Ludena Protocol is rewarding them fairly.
- ii) Important Tx generated during the operation of the sidechain is recorded in the Ludena main chain, while additional information is stored in the sidechain. This allows efficient side-chain throughput to be maintained independently of the main chain's block generation performance, and solves some of the main chain's blotting issues and side-chain's sensitive information exposure.
- iii) Engagement compensation, gameplay compensation, and item trading are all key features that will be implemented in the Ludena Protocol. These three result in a large amount of Tx. Gas commission fees in Tx may act as transaction costs, thereby hindering activities on the platform. However, when Tx occurs on the sidechain, there is no gas charge.



### 5.3 GameTalkTalk

**Korea's largest gaming SNS with 3.5 mil gamers,**

Minecraft 710k / Clash Royale 300k / Brawl Stars 200k (Korea's largest) / Battlegrounds 170k



GameTalkTalk: Ludena Protocol's firstDapp

### DApp Description

The first DAPP to be run on the Ludena Protocol is GameTalkTalk, which is a massive gaming social media application with more than 10 million monthly page views per month. It has collected more than 1TB of game users' data and can sync data from over 320,000 games published in the Google Play store. GameTalkTalk can gather and display users' gaming data based off the games downloaded to a user's mobile device. Users can share achievements they've made in each game with their friends and the overall community. The DApp has a tab where users can find and join groups dedicated to specific games. At present, there are over 4,700 game groups with a combined 150,000 active group members sharing a great amount of content such as strategy and gamehints.

Even those completely unfamiliar with crypto currencies, will be able to easily participate in the Ludena Protocol ecosystem. First, our token economy rewards gamers with digital assets, assets that such users are already accustomed to receiving in the games they play. The tokens can be used within the ecosystem to buy a plethora of items, so cryptocurrency exchange know-how is not required of our userbase. Additionally, we are preparing an embedded LDN wallet in the DApp, which will add an extra layer of user-friendliness to our ecosystem.

# 6. The LDN Token



## 6. The LDN Token

### 1. LDN Benefits

Benefits of token incorporation on a blockchain platform give users an added use case for the rewards they receive for their activities and in many cases, reward people for activities that they have not previously been rewarded for. Specific to our GameTalkTalk users who are accustomed to earning digital rewards for the completion of certain tasks, we are, for the first time, giving users a liquidity use case. For all participants in the ecosystem, the movement of this value results in relatively low fees compared to traditional financial methods. Due to the transparency of transactions on the blockchain, all participants can feel reassured that the system is fair and unbiased.

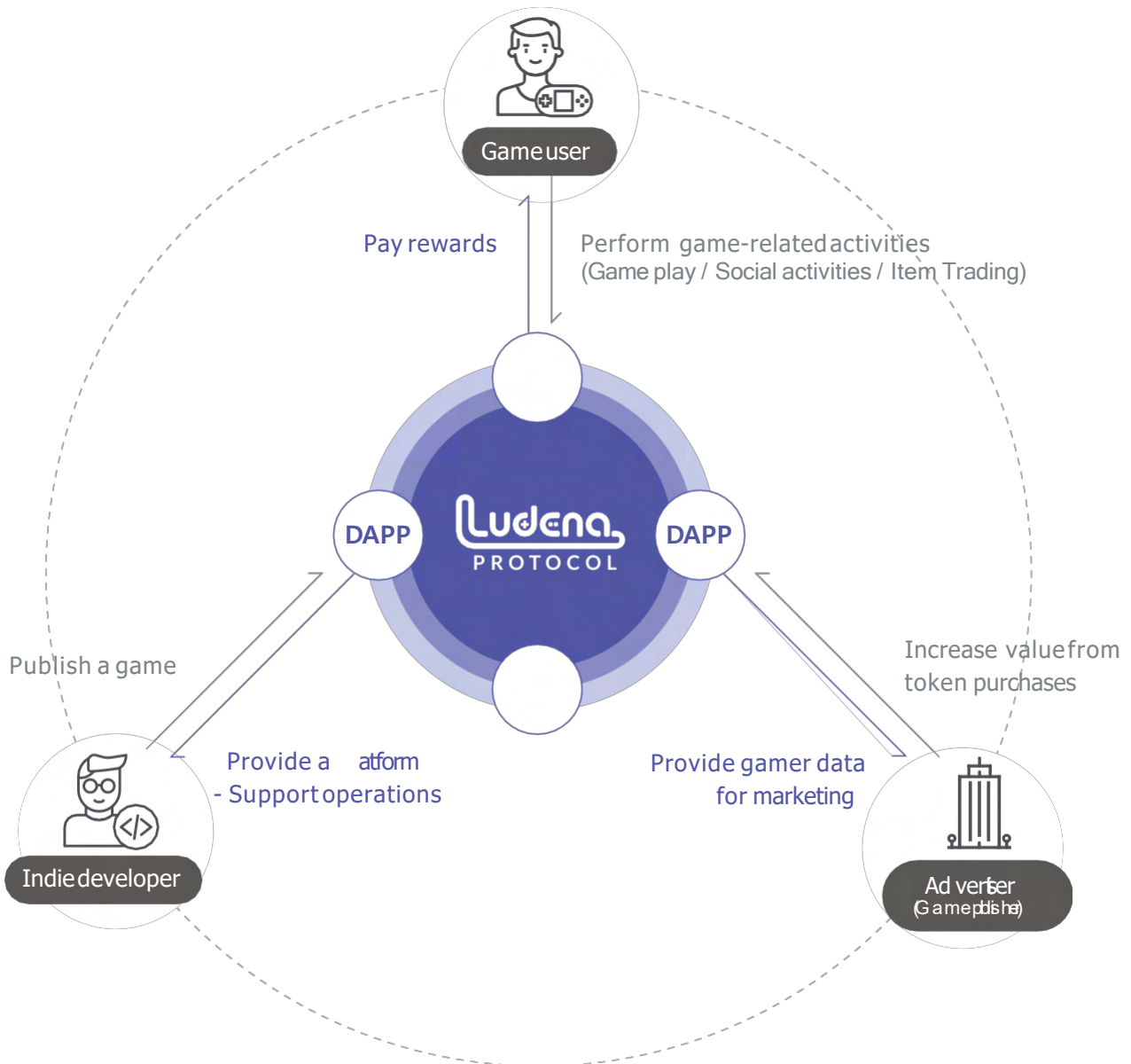
	Token Inclusion	Token Exclusion
<b>Transparency</b>	High	Low
<b>Currency Transfer Fees</b>	Low	Relatively High
<b>Incentives</b>	Automated, action-based compensation	Customized to each company No clear standard
<b>Governance</b>	Decentralized	Developer choice

### 6.2 LDN Use Cases

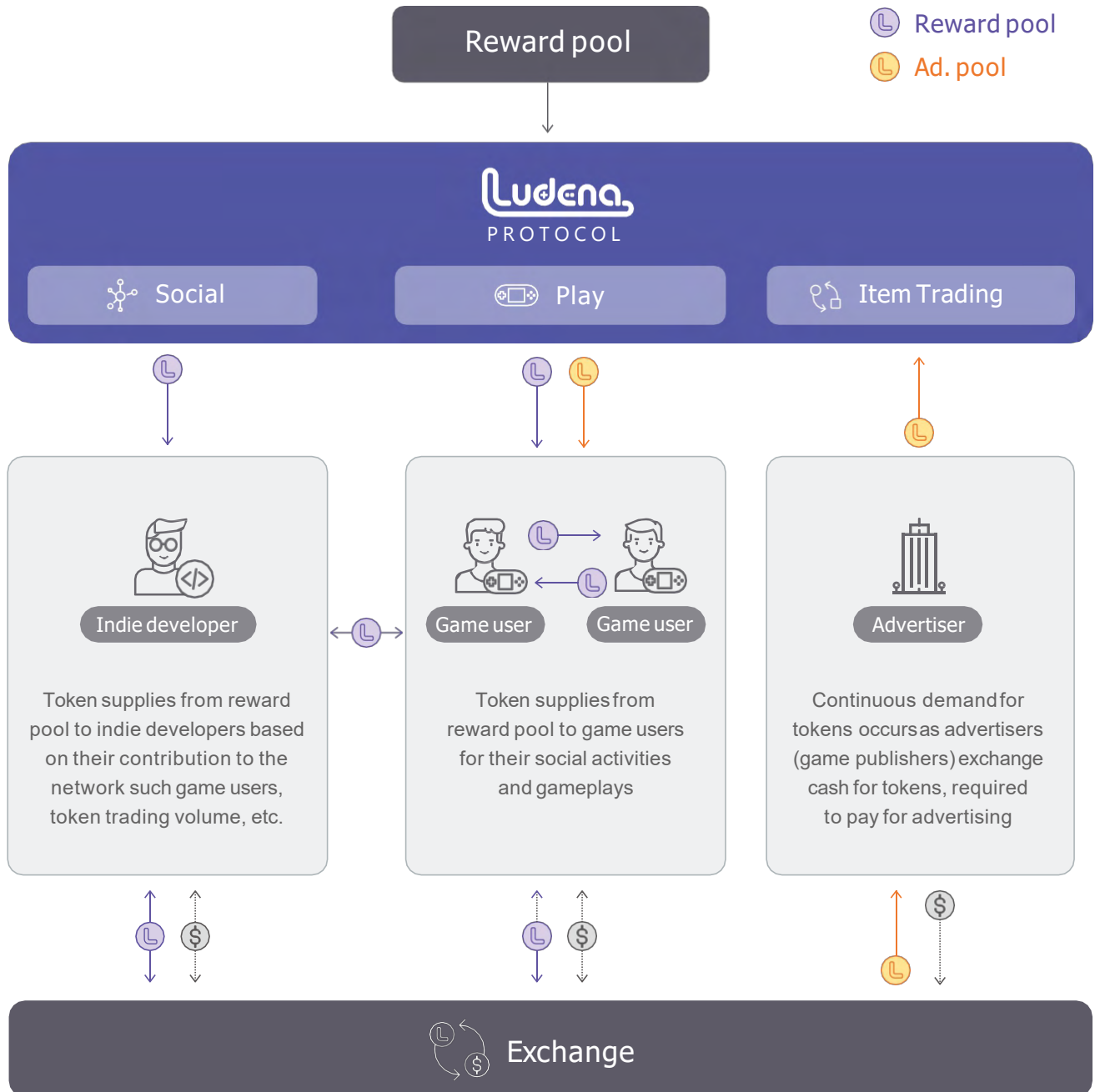
The LDN token is a coin issued on the Luniverse blockchain. It has a variety of use cases, but the following 6 are considered its most beneficial ones:

1. Gamers can use LDN to purchase or sell virtual items in either the in-game item exchange platform or within Ludena Protocol's gaming platform.
2. Users can exchange their LDN for tangible items from convenience stores, etc.
3. Game publishers can use LDN to promote their games on the platform, and lock them up to reward gamers for playing their games.
4. Indie Game Developers can use the LDN they receive from the compensation pool to provide rewards to gamers who play their games.
5. Gamers receive LDN as compensation for the value of their contents in the ecosystem and for playing games.
6. Gamers can use the level boosting function to quickly level up in the ecosystem using LDN.

### 6.3 LDN Token Flow







# 7. Company Results & 8. Community Support



## 7. Company Results



### The Seven Deadly Sins

Company	Netmarble
Pre-registration	29,476 people
Note	The Seven Deadly Sins IP



### Lineage2M

Company	NCSOFT
Pre-registration	92,212 people



### V4

Company	NEXON
Pre-registration	43,683 people

## 8. Community Support

After 7 successful years of GameTalkTalk's history, here's some of what the community had to say about their experience:



딸기오징어 & 황윤호tv

2021.01.14



I have to give a 'Like' to GameTalkTalk! There's a reason why GameTalkTalk is the best! It's really nice to get Brawlstars jewelry, gift cards and so on! GameTalkTalk is a must-install app. (Thank you!)



김주노

2021.03.15



(max55) It's the best app and it's improved a lot from when I first downloaded it. There's a constant effort from the development team. The design has become neat and you can easily see the features, but I don't think it's been promoted enough yet. I think we need to do more marketing, so I'd like to take on that task. I really want this app and its community to grow. We are the best!~



sil E

2021.04.14



Great! I can communicate with other users and I can even buy gift cards with the stars I get just from texting. I'm really taking advantage of this app! It would be great if I could use a star to change my nickname.

The community, above all else, is taken very seriously and the company is always open to all suggestions. In the global, DApp version of GameTalkTalk, Ludena Protocol will take user "Sil E's" recommendation and ensure that users can change their nicknames through star usage.



# 9. Roadmap

## 9. Roadmap

Ludena Protocol's team is currently developing the global version of its GameTalkTalk DApp. The LDN token is scheduled to be listed on major exchanges starting in Q3 2021 and after a successful launch in the Korean market, plans to be expanded to a global audience, starting in the home countries of strategic partnership members such as: U.S and ASIA. Ludena Protocol's userbase currently consists of 3.5 million members, however, by Q3 and Q4 of 2021, they will strive to boost that figure to 20 million through successful partnerships, lucrative membership benefits and enjoyable, addicting mobile games. Additionally, NFT Market place ,Ludena's World (Metaverse) and Token Based donation live stream broadcasting is in it's Beta stage soon to be launched.





# 10. Team Overview

# 10. Team Overview

## 1. Ludena Protocol Core Team Bios

Ludena Protocol has a steadfast team with proven success working with mobile application business models. Additionally, they are industry veterans in both the game and digital advertising space. Get more information regarding team member's professional history, achievements and more, on [ludenaprotocol.io](https://ludenaprotocol.io).



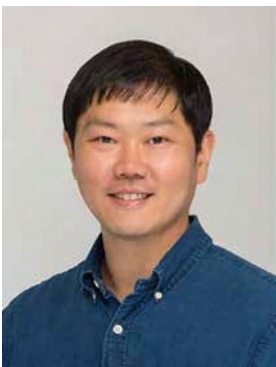
**Joshua Kim, CEO**

Ludena Protocol's CEO was one of the first experts in wireless internet connection in South Korea. Taking this expertise, he served as CTO at PSYNET, a mobile service provider, and incubated businesses with SKT, KT, and Microsoft in fields including: mobile news, wireless portals, etc. In particular, social mobile apps launched by Joshua, such as 'Hi There' and 'LiveScore' have produced remarkable domestic results since their release. Our CEO has the knowhow and cultural acumen to proactively helm mid-sized companies and grow them to be great success stories.



**Kenneth Lee, COO**

With over 12 years of experience working in Operations and Portfolio Management in the Financial services industry in Australia and Korea, Kenneth had an instant passion for Block Chain Technologies. Since 2018 Ken has been specializing in Leading blockchain projects and has a solid background in its technology and token economics. He has over 12 years of Korean business experience, working at household labels such as Samsung and KHNP. He has also founded Lodgeu, Kerahouse and TYNK Korea.



**Matthew Kim, CTO**

With a passion for PC gaming, Matthew developed the TWIMNET client, the first Internet game relay server in Korea. Later, in 2002, he was a developer for the virtual machine division at PSYNET, where he is credited for the contribution of many features such as: Pantech, MMS, video call, etc. which earned him the title of #1 general assessment agency of AT&T for five consecutive years.

**Peter Kim, CFO**

After graduating from Hanyang University's Department of Electronic Engineering, Peter worked for SHARP's strategic planning office and grew venture firm, PSYNET, to generate 10.4 billion won (\$10M USD) in sales in 6 years, through strategic financial decision-making and investment. Peter is an expert in financial modeling and business financial analysis.

**10.2 Project Advisors****Jack Lee, NC Soft Game Designer**

After founding his own ad agency, Flex, in 1999, Insun became a multimedia marketing heavy hitter, working with Korea's largest companies such as: Samsung Electronics, CJ and KT. He has been an online advertising and game expert who has served as a game lecturer at Hongik University's Graduate School of Film and Video Studies since 2007. He has won many awards including the 2005 Samsung Electronics Anycall Award.

**SangRyul Choi, CEO, Tin Robot Studios**

SangRyul has priceless global game launching insights through numerous game advertising marketing experiences, and serves as an advisor for the overall system of the Ludena global gaming platform. His expertise includes: Individual game production, pipeline configuration and video production for marketing purposes for an international audience.

**DongKyun Kim, CEO, Dayamonz**

He has experience in the success of popular mobile games such as "God of High School" and based on that, he is responsible for the playability and technical verification of the hyper casual games before they hit the platform and advise on the elements of the gaming platform's gimmicks.

### 10.3 Partners



Through joint operation with i-Cash in Indonesia, ABCC has secured 170 million members, involved in over 400 million communities, 800 schools and 6,000 chains of I-Cash's infrastructure network. This project will be commercialized from January 2020, and be the pinnacle fintech solution in Indonesia.



IEOC is an international, e-Sports, 'Omnipotent' organizing committee established in the UK and is currently operated by the organizing committee in 70 countries.



The Atae Group was established to promote economic exchanges among Asia-Pacific countries (in the field of international economic exchanges) during the project of the Asia-Pacific Peace Fund, a foundation.



Our partnership with Vault Micro Software will support GameTalkTalk's live streaming contents, primarily through their software, CameraFi Live. This software provides a live streaming Android app for YouTube and Facebook which allows various kinds of real-time edits to the stream, including images, text overlays, video filters and even pen functions. An average of over 8,000 broadcasts are recorded daily, in 199 countries, through the CameraFi Live app.



Super Moby Dick Games is a game development firm focusing on hyper casual mobile puzzles. Bench-marking global hits such as Tetris and Candy Crush, the team at Super Moby Dick Games have a catalogue of upcoming titles sure to lure a global audience. We will not only market these exciting titles to our user base, but Super Moby Dick will be developing games to upload to our gaming platform.



ReBlock is a full service digital marketing agency in Korea. They have global team members in Korea, China, USA, Ukraine, India and Russia. Their agency gives solutions for blockchain related projects as well as ICO, IEO or STO. They specialize in blockchain startup companies, marketing, advertising and PR, community and management, consulting worldwide (Europe, USA, Southeast Asia, Korea, China).



## 10.4 Blockchain Partners



The Sandbox is a new decentralized, community driven platform, where creators can make voxel assets and gaming experiences and monetize them on the blockchain. It features 3 main components: a 3D Voxel Editor (NFT builder), a Marketplace and the Game Maker. As a Sandbox Game partner, Ludena Protocol will have its own LAND within the Sandbox universe, which we hope will drive more international users to our platform. We hope to feature some voxel NFTs, exclusive to the Sandbox universe, on our virtual item exchange as well.



The main concept behind Enjin Coin is not entirely new, a common currency between multiple games that implement it and portability as well as Transferability of virtual goods and digital assets. It's a holy grail of a goal shared with other competing altcoins in the space



GameTalkTalk will be integrating the Theta protocol onto the platform. Theta Network will bring its high quality esports, gaming and blockchain content to our 3 million+ users. GameTalkTalk users will earn rewards with the TFUEL token for watching and sharing their bandwidth and videos with other network users and engaging with the content



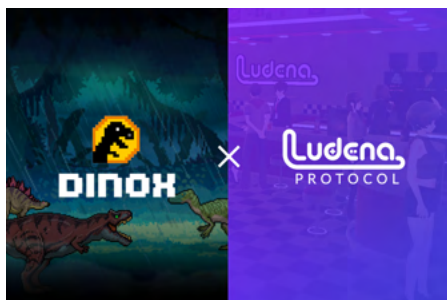
BlockVC will be supporting Ludena Protocol's expansion into various Chinese markets by providing valuable business strategy design input and sourcing strong alliances to increase the platform's success rate within this new audience.



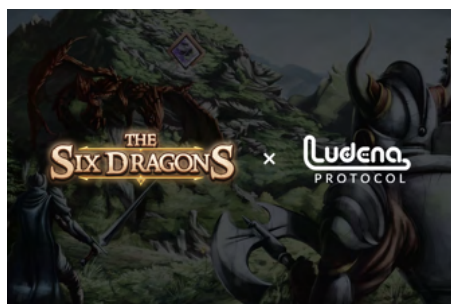
In addition to its own high-performance blockchain, Luniverse provides all the necessary environment aspects crucial for successful DApp development, including a convenient and secure development tool, a blockchain infrastructure operating environment, and a variety of embedded crypto currency wallets to help users use blockchain services more conveniently.

## 10.5 Blockchain Game Partners

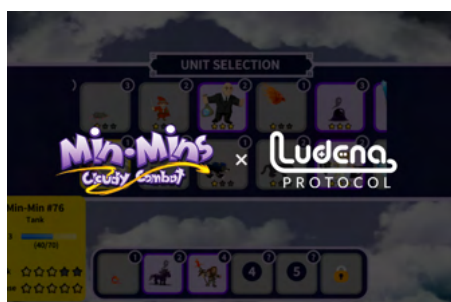
Ludena Protocol is creating an Extensive network with Blockchain Game companies .We supply them with user acquisition while in return NFTs and Token rewards are given back to us and our users. We are creating a centralized Blockchain Game hub Across the world where generic gamers and Blockchain gamers can become one.We have another 20 blockchain game companies in considering partnership.



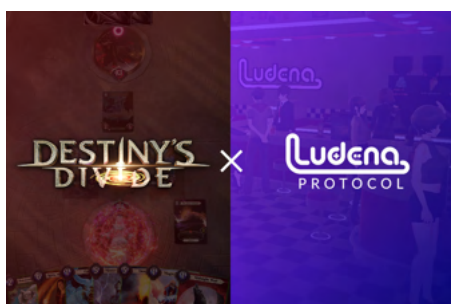
**DinoX** is a combat and strategy game in a sandbox environment. A beloved gameplay genre blended with a fan-favorite theme of dinosaurs. Players build dino kingdoms, rally resources to expand, build combative skills to occupy others, and due to the benefits of the metaverse, retain true ownership of the game. User can acquire different type of Dinosaur NFTs grow them and apply them on battles.



**The Six Dragons** is a feature-rich, fantasy Open World RPG inspired by some the most iconic titles of the past two decades. The game features a 256 km2-long vibrant world with limitless adventures, epic fights, and the freedom to do anything you want. Players can explore endless lands, farm for valuable materials, craft more than 300 unique items, trade items with other players and improve their arsenal using powerful enchants.



**Min Mins** is quite simple: you recruit a team of six units (fighters). You place them in the playing arena. And you attack each other's fields in turn with the enemy. The difficulty is that clouds hide your enemy's arena, so you cannot see the enemy's units. You cannot see where to shoot. Just like in Sea Battle. Min Mins will take you to your childhood, and you will completely forget about everything, pumping your units, collecting stronger teams, and defeating rivals!



Gameplay is where **Destiny's Divide** really excels. With new and interesting mechanics such as the SharedBoard, Heroic being and others, it brings new and unique strategies to the CCG genre. The game includes four game modes, a casual game mode, a ranked game mode, brawl mode and hardcore mode. The game focuses on competition and it heavily rewards ranked play. But you can still play it casually!

### 10.6 GameTalkTalk DApp Clients with Generic Game Companies

Over the past 7 years, GameTalkTalk has worked with over 200 clients to provide marketing solutions for their user acquisition pain points. These customers have been left satisfied with the results achieved within the GameTalkTalk platform and have been return patrons during its history.



Ludena Protocol looks forward to expanding this growing list as they partner with local gaming companies in relation to the future international markets they will launch in.

# 11. Token Details & Distribution





## 11. Token Details & Distribution

The LDN token will be available for purchase on major exchanges in 2020. Tokens are required for the platform's key value propositions.

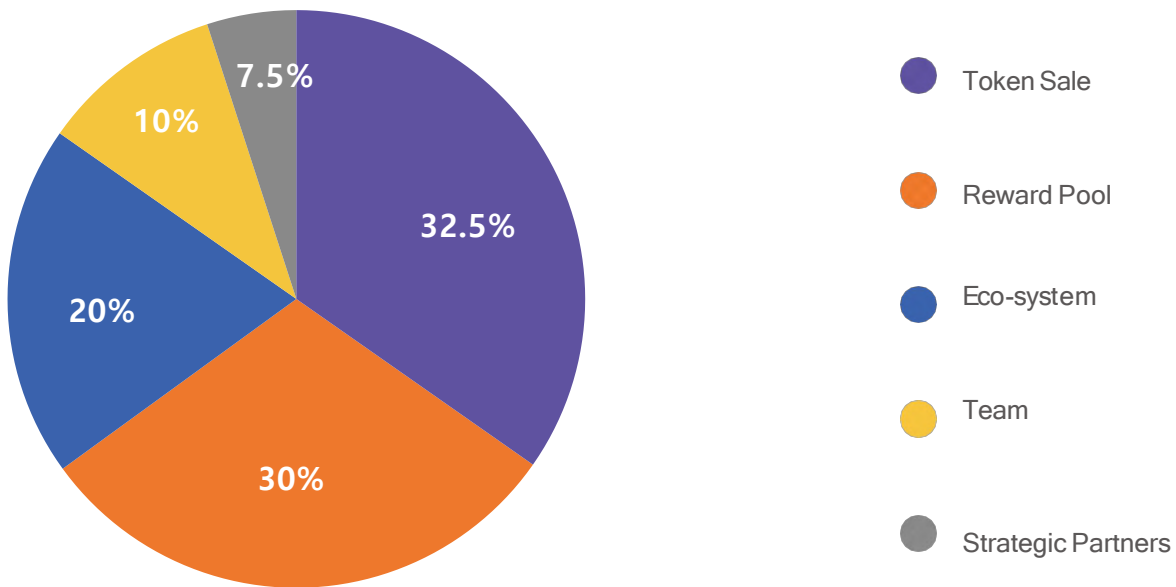
The total LDN supply will be 1.2 billion tokens. The total sale allocation of this portion is slated to be 32.5% or 0.39 billion tokens. Additionally, 0.36 billion tokens, or 30% will be allocated to the reward pool, which will be used to recruit additional users and to incentivize platform users' active ecosystem participation through fair compensation.

<b>Currency Code</b>	LDN	
<b>Currency Type</b>	Utility Token	
<b>Token Sale Allocation</b>	390,000,000 LDN	
<b>Hard Cap</b>	\$2,200,000 USD	
<b>Total Supply</b>	1,200,000,000 LDN	
<b>Private Round Price</b>	1 LDN = \$ 0.0067	
<b>Bonus</b>	20% discount	
<b>Accepted Currency</b>	USDT / BTC / ETH	
<b>Lock-up Terms</b>	<b>Team</b> 1 year 6 months vesting	- After 6 months : 10% - 15% every 3 months thereafter
	<b>Private Sale</b> 1 year 6 months vesting	5% upon listing, 15% per month thereafter, 20% final month

\*Lock-up release period begins after the first exchange listing



### Token Allocation



## 12. Disclaimer

This whitepaper is for general information purposes only in relation to the Ludena Protocol project and the information herein is current as of the date on the cover page. This white paper is a continuous work in progress and subject to review and revision. We reserve the right to update the white paper at any time.

The goals set forth in this whitepaper are not guaranteed to be achieved or finalize in the specified desired result. Absolutely no future plans, goals, etc. outlined in this document for the Ludena Protocol project should not be regarded as fact.

Participation in a token sale can be highly speculative and risks include total loss. A prospective purchaser should thoroughly review the token sale memorandum and carefully consider all the risks involved. This whitepaper does not constitute the offering of a security. In many regions, token sales are still highly scrutinized and regulations are still not fully established. Furthermore, some entities view that token sales may qualify as a sale of investment contracts.

This white paper is not in any way a recommendation to purchase LDN tokens. There is a significant risk of participation in the purchase of LDN tokens and thorough consultation with legal and tax experts should be done beforehand, as regulations regarding crypto currencies are constantly changing around the world.

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