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The global gaming industry has grown rapidly in the last decade with vibrant thriving communities growing from various games such as Fortnite. Despite the size of the gaming industry, gamers still have little control over their in-game assets which has been fully monopolised by the game creators themselves with little regulatory oversight on the area.

The market for secondary trading of in-game items is estimated to be a whopping 50 billion USD in 2018 with a large volume of microtransactions occurring. Despite the size of the market, secondary market trading of items is frequently prohibited, and where they are allowed, the game service providers or third parties service providers charge a large hefty commission fee on the transactions.

Despite the high fees, users have no alternatives to secondary market trading due to the need for two parties to be able to trust each other in P2P trading. This necessitates the use of blockchain technology to eliminate the need for trust to conduct the transactions. For such a system to work, it is crucial that the blockchain is stable, scalable and secure for the game item trading industry.

TriumphX aims to provide a decentralised exchange to conduct peer-to-peer (P2P) trading without the need for hefty fees and to lose control of their digital in-game assets.

TriumphX was designed and built by gamers, for gamers.
Newzoo forecasts that the game market will continue to grow in the following years, exceeding $200 billion at the end of 2023. By then, the games market will grow with a +8.3% CAGR to $200.8 billion.

It is also estimated that the 2020’s global game market will generate revenues of $159.3 billion USD, which represents a healthy 9.3% year-on-year growth. While all game segments have an increase in engagement and revenues in 2020, mobile gaming experienced the biggest increase. In total, mobile games will generate revenues of $77.2 billion in 2020, growing +13.3% year on year, the fastest among all segments.

Source: ©Newzoo - 2020 Global Games Market Report
newzoo.com/globalgamesreport
There is a wide variety of platforms that complements the vibrant and thriving gaming markets for PC and Console games such as streaming services via Twitch, secondary market trading for in-game digital items and through third party services such as ItemBay. However, despite the size of the mobile gaming market, the complementary services to the mobile industry is significantly smaller.

These complementary services have a significantly smaller market as Global Esports revenue projections through 2022 by various reputable sources including Goldman Sachs, Newzoo, SuperData, PwC and Business Insider Intelligence puts the size of Esports market to be 1.5bn USD to 3bn USD. While projections vary, the common consensus is that the Esports market can be expected to grow rapidly and double over the next two years.
Esports used to be considered as a niche group of users and a subset of sports culture, but its rapid growth due to popular games such as Fortnite ad championing from mainstream celebrities such as Michael Jordan, Drake and DJ Marshmello has led to Esports growing into a vibrant industry of its own.

The vibrancy of the gaming market and Esport market has also led to a third market that is rapidly growing, secondary market transactions for the digital in-game items. The size of the market is estimated to have at least $50 billion USD of Gross Merchandise Value according to Juniper Research. This is a massive growth from the current $30 billion USD in Gross Merchandise Value in 2018. Around 60% of console gamers have purchased virtual items at some point, along with 43% of PC gamers and 33% of smartphone gamers. In the last 12 months, video gamers have spent an average of $133 (console gamers), $96 (PC gamers), and $37 (smartphone gamers) on virtual items.
Lack of Trust

Despite the potential size of the secondary market transactions for in-game digital items, there is a lack of trust among the buyer and sellers. This gives rise to the need for third party custodial services which take hefty commission fees in the process. Fees vary among the third party service providers, but generally fees can be as high as 10% of the transaction. With an estimated industry size of $50 billion USD, this can be up to a whopping $5 billion USD in fees collected from users representing value lost to users due to the inability to trust.

Through TriumphX, users can engage with TriumphX smart contract to securely lock their items for P2P transfers. The smart contract will only release both items once both users have locked their respective Non-Fungible Token (NFT) and TRIX token for trading. Such blockchain service eliminates the need for trust among buyers and sellers and allows for seamless P2P transactions instantaneously.

Lack of security

Despite the hefty commissions collected by third party custodial services facilitating the trading of in-game items, it is still necessary to trust that the third party custodial service and automated trading bots are functioning properly without glitches. Among the users of third party trading services, the most important aspect users look out for is the security of the platform. While some third party services have established a reputation among the gaming community, security at these services may still be compromised and hacking remains a prevalent issue among service providers that handles large volumes of transactions.

Low Liquidity

Trading of in-game items in the secondary markets is highly fragmented with various third party service providers. The wide variety of items provided in the markets also creates difficulties in ensuring high liquidity in some markets. TriumphX solves this through a two-prong method, (1) combining all of these markets through a single neutral network that all third party service providers can trade efficiently for NFTs that exists across all types of blockchains, and (2) the incentive mechanism provided to liquidity providers of NFTs to ensure deep liquidity in markets.
Non-transparent information

Information regarding in-game items is difficult to obtain as there is no transparent database on statistics of each in-game item such as the total quantity of items that are in existence, the total number of items that are being traded actively, trading volume of items, and the rate of emission of new items. Without such information, the market largely relies on price discovery which can be inefficient due to asymmetrical information. Large third party service providers for secondary market trading may be able to manipulate such markets given the better access of information that they have.

Through TriumphX, all information regarding in-game items are recorded transparently on the blockchain and users can use our block explorer to find out more information about the quantity of in-game items in existence, their last traded price, and even to obtain information on historical traded prices. Users can also observe whether there are attempts to hoard a particular item for market manipulation and can be more aware of trading such items in a more efficient market.

Unsanctioned by most game providers

In 2018, Valve issued a cease and desist order to OPSkins, which was one of the largest P2P custodial services for conducting trades on the secondary trading of items. Valve has also deactivated all accounts related to the trades. While Valve has not issued an official reason for the shutdown, it is very likely that the reasoning for the shutdown from Valve is to drive skin sales to the Steam Community Market instead of third-party platforms. Valve has since undertaken additional measures to limit the ability to send items from various loot boxes to further restrict the ability of gamers and to enhance their own profitability. Some of these measures include limiting the ability of users to transfer items more than once and to restrict the transfer of items for a certain period of time after the items are transferred.

We believe that such actions undertaken by game providers restrict the ability of users to have full control over their in-game items which they have purchased and intend to create TriumphX to enable the transaction of such secondary market trading. To align the economic interest of game service providers and the users, game service providers such as Valve will be able to become a strategic partner of TriumphX to gain profits from all transactions conducted on the blockchain platform and restrict such third parties from profiting at the expense of the game service provider.
Vision

TriumphX is a decentralised exchange for the trading of in-game items that exist as NFTs. Our goal is to create a highly liquid decentralised market that enables users to trade NFT tokens that exist across various blockchains with the highest security and transparency. To achieve this, TriumphX will be integrated with multiple decentralised exchanges to facilitate the deep liquidity of NFT tokens. The TRIX token will complement the TriumphX ecosystem by creating a sustainable token economy through game theory and the TriumphX blockchain will be designed with scalability, interoperability and achieve finality in transactions in the most secure and transparent manner. It is designed to complement the rapid growth of gaming and Esports to provide gamers with the quality of services that they deserve.
TriumphX
Blockchain Technology

Blockchain Architecture

- **Services**
  - Fee | Price Decision | TDI | PoO | P2P

- **Protocol Layer**
  - Kabocha Protocol | TRIX Wallet

- **Base Layer**
  - TSCE | Machine Learning

- **Blockchain Layer**
  - Polkadot Parachain built using Substrate
1. Blockchain Layer

Considering transparency, stability, security, and scalability, TriumphX will be built on the Polkadot network as a parachain. Polkadot enables interoperability and scalability by allowing specialized blockchains to communicate with each other in a secure, trust-free environment. Through the parallelized model of Polkadot, TriumphX will be built as a parachain that can compile into WASM and be connected to the Polkadot network.

The Polkadot Relay Chain does not implement smart contracts natively. However, it’s possible for parachains to enable smart contract functionality and then benefit from the security and interoperability features of Polkadot. This is the core reason for building TriumphX as a parachain due to the ability to contain our own runtime logic that benefit from the shared security and the cross-chain messaging provided by the Polkadot Relay Chain. With the high degree of flexibility and customization, TriumphX will be able to customize the chain according to the commercial needs of partners within the network.

TriumphX will be developed using Substrate Core, which grants us the ability to design the entire runtime and implement it from scratch.

Triumphx Council Reward system

Stability is the most important factor of the TriumphX platform services. In this scenario, validators would exert their utmost effort on the node operation to maintain the stability of their business.

In the initial stage of the blockchain, few business opportunities would be available since the token economy has not been activated. Therefore, we plan to recruit council members who can form stable blockchain networks for an appropriate level of compensation. The initial council members will receive an annual compensation of 5% of the amount of trust for a period of time needed to stabilize their businesses. Such compensation plans will remain effective until 101 companies are registered as validators.

The council members also act as a form of governance for the TriumphX blockchain and will have the ability to vote on key decisions concerning the TriumphX blockchain such as the fees on the platform.

Creating a Sustainable Decentralised Governance Model

As we expect centralized exchanges to hold significant sums of tokens, safeguards will be put in place to ensure that exchanges are barred from the governance process and voting process to prevent manipulation of the network in the interest of the exchanges using tokens which are not owned by themselves. These safeguards include identification on the blockchain and active governance from the validators to bar addresses that have been identified as exchange addresses on the network.
At the start, there shall be two validators, managed by the creators of TriumphX. As time goes by, more validators will be opened, up to a total of 101 validators. Subject to future governance changes by the 101 validators, the number of seats may be further expanded.

Each validator term lasts for a period of 12 months, and after the initial 12 month period, all validators, including the initial two seats controlled by the founders, will be put up for voting by the network users. This ensures true decentralization of the network.

In the long-term, there may be additional DAOs being created on the TriumphX blockchain to satiate the need for greater coordination outside of the initial validator setup. These DAOs can be governed by various decision-making processes such as simple 1-person-1-vote mechanism, delegated voting, 1-token-1-vote, or other more complex mechanisms.

**Election of Validators**

Users will need to signal (by time-locking their TRIX tokens to vote for certain decisions on governance of the TriumphX blockchain). These tokens will not be spent and will be returned to the voters after a certain period of time.

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**Council Member Applicants**

Successfully voted as Council Members

No votes, rejected

**Smart contract signaling using TRIX tokens**

**TRIX Tokens Owners**

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2. Base Layer

It is necessary to extend the basic functions of the blockchain to connect the blockchain with real-world services, maintain the stability of the mainnet, and configure blockchain services. The base layer of the TriumphX platform consists of functions necessary to fulfill such requirements.

TSCE (TriumphX Smart Contract Extension)

Extended functions are required to use smart contracts on the blockchain for contracts of real-world service. TriumphX provides TSCE (TriumphX Smart Contract Extension), which adds TriumphX’s own extension to the existing Substrate API.

Real-life contracts require a variety of information, such as the coin price of exchanges, stock price, exchange rate, weather information, and a random number generator used in games or lotteries. When retrieving data from outside the blockchain, it is necessary to check the correctness of the information and thoroughly make exceptions when the information is deemed to be incorrect. TSCE implements Oracle functions in a decentralized way.

On the blockchain, it is not always possible to check the execution time of the contract due to resource issues. Thus when a scheduled execution is required, it cannot be implemented only with a smart contract. TSCE, like Oracle, implements the scheduled execution function in a decentralized manner.

TSCE plans to create a library of functions with scalability in mind. In the process, we will also focus on the efforts to prevent hacking.

Machine Learning

Machine learning and blockchain may seem to have no common ground, but both are rapidly evolving technologies, and will play key roles in the business platforms in the future. While designing the TriumphX platform, we have learned that we need to actively adopt the latest machine learning techniques. Machine learning will play crucial roles in various aspects of TriumphX, such as anomaly detection to spot external attacks, and pricing system to quickly determine the appropriate fee and price.
3. Protocol Layer

The TriumphX platform provides decentralized protocol called ‘Kabocha’ that can be easily extended and connected to enable effortless creation of decentralized applications (DApps). This protocol is managed by TSCE and API. The TriumphX platform manages the dependency of API libraries and provides a convenient development environment. Because the Kabocha protocol is designed as an open platform, anyone can connect to TriumphX. Documentation and tutorials for the Kabocha Protocol and all APIs will be released on GitHub in line with the testnet release schedule.

TRIX Wallet

A dedicated wallet is required to obtain TDI or mutual evaluation information of the TriumphX platform. While the wallet itself is not a decentralized protocol-based service, it is necessary for the TriumphX platform to provide an integrated service. Wallets needed to be protected with the highest level of security in the decentralized blockchain technology. The source code of the wallet will be released as an open source and will be continuously audited for security issues.
The services provided by TriumphX are optimized for general DApp development. Services will be constantly updated and added.

1. Fee Service

The fee for all services on the TriumphX platform is paid with TRIX tokens, so the fee module is included in all services. Overly high fees would make the users uneasy, while too low fees would cause problems in system operation. The TriumphX platform implements machine learning to monitor and determine the optimal fee to create a healthy blockchain community. Fee standards and the charging process will be transparently disclosed in a decentralized way.

2. Escrow Service

A contract itself can be implemented as a smart contract on the blockchain. However, an extended smart contract is required to specify an escrow at the beginning of the contract and release the escrow at the termination of the contract. The TriumphX platform implements such functions using TSCE, enabling users to tokenize their in-game digital items.

3. TriumphX Digital Identity (TDI) Service

KYC (Know your customer), the process of verifying the user’s identity, has become a basic requirement on most of the public blockchain services, including ICOs. The KYC process varies from country to country, and services provided vary depending on the level of verification. This process is complex and time consuming, taking up to weeks or longer for completion. Due to the issues of GDPR, careful attention must be paid to the personal information collected.

TriumphX platform provides strong KYC for security and privacy protection through TDI service, and the information registered through TDI can be used simultaneously for all services on the TriumphX platform. Each user that has completed their KYC will receive an NFT into their wallet, identifying their wallets and accounts that are associated with the user for seamless capabilities in integrating across different blockchain networks.

4. PoO Service

Proof-of-Ownership (PoO) is a function that electronically proves one’s ownership of their assets, which is essential for online spot trading. It is necessary to cooperate with a publicly trusted organization to implement PoO. Also, the organization that handles PoO is handled must go through a high level of security and audit similar to that of financial institutions. Therefore, it is very challenging for general users to implement the PoO function. On the TriumphX platform, PoO will be implemented in conjunction with credible institutions for each asset.
5. P2P Transaction Decision Service

P2P trading is a method of determining the price between the buyer and seller. For this function, we need an algorithm that accurately and quickly establishes exchanges in which both sides can benefit. The TriumphX platform provides services for all types of multi-chain based P2P transactions.

P2P Automated Market Maker

TriumphX adopts an innovation popularised by Decentralised Finance (DeFi).

Through the use of an automated market maker (AMM), we are able to quickly facilitate the trading of NFTs that belong to the same subset (i.e. NFTs that represent the same items). The AMM will require liquidity to be provided by the gamers who will be rewarded in TRIX tokens for the liquidity that is provided for price discovery.

An AMM does not have any buy/sell order book. Instead both sides of trades are pre-funded on-chain by liquidity pools. Liquidity pools allow users to seamlessly switch between tokens on-chain in a completely decentralized and non-custodial manner simply by connecting their cryptocurrency wallets to the liquidity pool. Liquidity providers are compensated for their services in providing liquidity via trading fees based on the percentage of their contribution to the pool.

TriumphX will use the Constant Product Market Maker (CPMM) model based on the function $x \cdot y = k$ which establishes a range of prices for two tokens according to the available quantities (liquidity) of each token. To demonstrate how a CPMM model works, when the supply of token X increases, the token supply of Y must decrease, and vice-versa, to maintain the constant product K. When plotted, the result is a hyperbola where liquidity is always available, but at increasingly higher prices that approach infinity at both ends.
6. Pricing Service

P2P transactions are established when there are two-party transactions. However, in real-world transactions, trading based on fixed price is more common. When there are enough P2P transactions for internal processing, the P2P transaction decision service is sufficient. On the other hand, when the transaction is concentrated on one side, issues of pricing and liquidity for cashing arises.

While the spot and fiat trading is fixed, the coin-fiat exchange is determined by the transaction volume, price, and fluctuation of the coin. In the case of minor coins, the small trading volume and the high volatility makes large spread inevitable. However, if the spread becomes too large, customers would not want to trade. The TriumphX platform provides a real-time pricing service using machine learning to solve this problem.

7. Payment Gateway (PG) Service

PG requires processing of large volumes of microtransactions of transactions. In this case, stability and speed is the most important factor, since users would not use the system if payment processing is delayed. The slow processing speed and lack of scalability of Bitcoin is arguably one of the core reasons why it has not been adopted as a method of payment. On the TriumphX platform, a stable PG service is implemented using multi-chain.
Creation of Non-Fungible Tokens for Trading

Through TriumphX, gamers are able to tokenize Non-Fungible Tokens (NFTs) that represent the unique in-game items that they own. To tokenize these NFTs, gamers will be required to stake a small amount of TRIX tokens corresponding to a proportion of the in-game item's value. An API will validate the ownership of the items held by these users hence it is possible for the users to create a NFT of in-game items that have limited transferability as the item does not ever have to leave their inventory.

The item can also continue to be used while it is being actively traded among users until a buyer redeems the item. Through the same API and through smart contract capabilities within the TriumphX blockchain, the item will be automatically transferred to the buyer and the staked TRIX tokens will be released back to the seller.

In the event that there is a rapid change in value of the NFT or in the value of the staked TRIX token such that there is insufficient collateral to tokenize the in-game item, the seller will need to put up additional collateral otherwise the NFT will be taken to have been repurchased and redeemed by the seller, and the buyer will receive the staked TRIX token as payment. This is considered to be a liquidation of the seller, and upon liquidation, the seller will also have to pay an additional fee of 2% of the purchase value which is sent into an insurance fund on the TriumphX blockchain as a safeguard against potential slippage of costs. This insurance fund is fully governed by smart contract capabilities and provides reassurance for buyers of the NFTs that the value of their assets will be fully backed and redeemable for the actual value of the items.

**TDI Module**

1. Submit KYC docs to receive KYC NFT for verification.
2. Tokenize in-game items by staking TRIX tokens to receive NFT.
3. Submit orders to sell NFT and NFT is transferred once orders are matched.
4. Redeem in-game items by sending NFT into the game and registering with account.
5. Staked TRIX tokens are returned to the Seller once the NFT is redeemed and in-game item is sent from Seller to Buyer.

P2P trading is enabled between TRIX and NFT tokens via the TriumphX Platform through smart contract.

**TriumphX Platform**

Games (that facilitate trading)

Sellers

Buyers

Games (that facilitate trading)
ERC-1155 Token Standard Adoption And Future NFTs

NFTs will exist as ERC-1155 tokens on the Ethereum blockchain in the initial stages and future token standards that are backward compatible with the ERC-1155 token standard will be implemented to ensure interoperability across all blockchains within the TriumphX network.

ERC-1155 token standard was selected as it is able to manage multiple token types within a single deployed contract. For example, a combination of fungible tokens, non-fungible tokens or even semi-fungible tokens can be created. For game developers, adopting the ERC-20 or ERC-721 standard would require the creation of thousands of unique smart contracts, each representing a unique in-game item. The ERC-1155 standard would enable each game to operate on a single smart contract. Transaction fees may also be lower as multiple token types can be swapped at once.

Aggregated Public Database on NFTs

While the in-game items that have been tokenized exist as NFTs on the blockchain, these NFTs can still be aggregated under the same subset of items. For example, two “Legendary Dragon Sword” tokenized on TriumphX exist as two unique NFTs, but the blockchain recognizes these two NFTs as the same item, hence can be used interchangeably with the same price.

The key objective of having these items existing as NFTs is to enable tracing of ownership of the items such that when it is redeemed by the buyer, the blockchain will know which is the seller of the item and can conduct the transfers between the two accounts accurately.

Because of this ability to recognize different NFTs as representation of the same item, the TriumphX Explorer is able to group these items together to state useful statistics such as the total number of items tokenized and in existence on the blockchain, the total historical traded price of such items, the number of items owned by each user to identify if there is hoarding of items and more.

Interoperability Across Different Blockchains

TriumphX has a concrete plan for achieving interoperability through Polkadot, a cross-chain bridging network that Parity is developing in partnership with Substrate. Through the connection with Polkadot, TriumphX will have true interoperability with all blockchains in the Polkadot network and cross-blockchain transfers of any type of data or asset can be accomplished. This increases liquidity of NFTs and TRIX tokens as it increases access to the NFTs by the communities across a large number of blockchains.

For high-stakes transfers and trading, users may opt to have finality of their transactions occurring on a time-tested network such as Ethereum which has high security but also higher costs and longer time taken for finality onchain. Alternatively, if lower cost of transactions and speed is of essence for the user, a different blockchain such as EOS can be used by the user for quicker confirmation time. It is also possible for users to leverage on more complex strategies such as obtaining speed via an initial EOS transaction, and automatically finalizing the transaction on Ethereum after a pre-defined period of time helping users manage the trade-offs between transaction costs of short term trading (e.g. scalping/swing trading of NFTs) while ensuring security for items that are held as a store of value by the users.

In the future, if there are additional networks capable of enabling cross-chain transferability and interoperability, TriumphX can be further integrated with these networks to further increase the cross-chain transferability of NFTs ensuring that TriumphX blockchain is future proofed regardless of how new platforms are developed and forward compatibility of the NFTs with blockchain networks that have yet to exist.
Alignment of Economic Interest with Game Service Providers

Game Service Providers are usually less receptive to leverage on blockchain technology to tokenize their in-game items into NFTs. A key reason for this is because it limits profitability of their games if alternative secondary markets are used, limiting the ability of these in-game service providers to earn revenue from secondary market trading within their own platform or that it limits primary market purchase of new in-game items directly using fiat currencies.

While it is a rational decision to protect their revenue stream, it also holds back the community of gamers and the potential for these game service providers to grow their future revenue streams. Gamers who have purchased these in-game items using cash should have full control of their items as a fundamental right. Gamers are also more likely to purchase in-game items and loot boxes directly from the game service providers if they know that their items have resale value on the secondary markets. Combined, these factors can lead to a significantly larger revenue stream for the game service providers.

Incentive for Game Service Providers

To ensure that the tokenization of in-game items does not cannibalize their own revenue stream, TriumphX ecosystem allows for game service providers to stake TRIX tokens and to verify to the TRIX validators of their identity to gain a portion of profits that are made from the secondary trading of NFTs on the TriumphX blockchain. This alignment of interest expands the entire economic pie for both gamers and game service providers, leading to economic benefits reaped for both stakeholders. To be able to earn such fees, the Game Service Provider have to make their games available on the blockchain in addition to staking.

As a start to encourage adoption, TRIX will provide new Game Service Providers with some ecosystem tokens on their staked tokens to further incentivize Game Service Providers to build their game on the blockchain.

Gamers’ Community Engagement

The popularity of games has resulted in the growth of a vibrant gaming community. These communities frequently exist on discussion boards such as Reddit or informal wiki pages created by the gamers themselves, offering useful discussion, feedback and guides for new gamers. The presence of such communities is frequently the cause of success of the games themselves.

To further increase engagement of games with the vibrant gaming community, game service providers will be able to create unique Community Tokens (CT) which exist as fungible utility tokens on the TriumphX blockchain, representing their game. These CTs can be used as rewards to gamers for their activity and engagement within the community and can also be traded for money on the secondary markets. Gamers with a large number of CTs can redeem these CTs for in-game items, used for priority access to tournament tickets, limited edition merchandise or even to vote for new features to be included into the game. The possibilities are limitless and can be determined by the game service providers themselves.
TRIX Token Economy

Utility of token

1. As a currency for P2P transaction on the decentralised exchange (trading of items)
2. To pay for transaction fees (discounted fees using TRIX)
3. Staking by game companies to enter into the TriumphX ecosystem for a share of profits made from the transactions occurring on TriumphX marketplace
4. Governance – signalling and voting for changes to the TriumphX blockchain

Token distribution

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
<th>Tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private sale investors</td>
<td>30%</td>
<td>3,000,000,000</td>
</tr>
<tr>
<td>Ecosystem Fund</td>
<td>30%</td>
<td>3,000,000,000</td>
</tr>
<tr>
<td>Reserves</td>
<td>20%</td>
<td>2,000,000,000</td>
</tr>
<tr>
<td>Team &amp; Advisors</td>
<td>10%</td>
<td>1,000,000,000</td>
</tr>
<tr>
<td>Strategic Partnerships</td>
<td>5%</td>
<td>500,000,000</td>
</tr>
<tr>
<td>Marketing</td>
<td>5%</td>
<td>500,000,000</td>
</tr>
</tbody>
</table>

Total supply: 10,000,000,000 TRIX tokens
TRIX Valuation

Given that the total supply of TRIX is fixed, the core factors influencing the network value of TRIX is based solely on demand drivers. The fundamental demand driver of TRIX is through liquidity demands from the P2P trading of in-game items that have been tokenized on TriumphX blockchain.

\[ SS_{TRIX} \times V_{TRIX} = P_{TRIX} \times GMV_T \]

Where,

- \( SS_{TRIX} \) represents the total supply of TRIX tokens which is a constant at 10,000,000,000 TRIX tokens
- \( V_{TRIX} \) represents the velocity of TRIX tokens
- \( P_{TRIX} \) represents the price of TRIX tokens
- \( GMV_T \) represents the total Gross Merchandise Value of in-game items being traded P2P on TriumphX

Through the equation above, the core driver of the price of TRIX token would result from the Gross Merchandise Value of all transactions that occur on the TriumphX blockchain. The greater the size of each transaction and larger volume of trading that arises from deep liquidity of P2P trading, we can expect the price of TRIX token to increase, ceteris paribus.

Another key driver of the price of TRIX token is based on the velocity of TRIX token. As a payment token, the velocity of TRIX token is expected to be higher at the start when the ecosystem is less mature. However, with time and as more companies onboard with TriumphX to become validators, there will be an increase in TRIX tokens being used for staking to gain benefits from being an ecosystem partner. Additionally, as trading volume increases, the sellers of NFTs will need to stake more tokens as collateral to tokenize their in-game items for trading. With an increase in trading volume and liquidity, more TRIX tokens will be needed to enable the trading, further reducing the velocity of TRIX tokens and driving up the price of TRIX tokens, ceteris paribus.
Ekkorr Inc.

Ekkorr is a game development company that was founded in September 2011 in Korea. Most members are the experts that have ten years of the development experience over. They have been developing and operating the total of nine games including Endless Frontier, Tiny Conquerors etc. The development team has a deep understanding of the operation of games through their seven-year experience in launching several successful titles.

Through the partnership with Ekkorr, we expect that there will be a lot more DApps and game service providers onboarding with the collaboration to launch games on the TriumphX Blockchain. The founder of Ekkorr, Shin Myung-yong, who is popular in Korean game development community, intends to build his next game on the TriumphX platform. The new game is titled “Endless Defence” and will be designed to be integrated with TriumphX.

Due to the global nature of gaming where users are located globally, there have been a lot of inconveniences such as different currency rates when trading items, however, through TRIX, you can trade items more efficiently and conveniently.
Endless Frontier

Endless Frontier Global IP achieves over 30M accumulated downloads, and over 70B KRW (58M USD) in accumulated sales

- Easy IP access with a global fandom base
- Distinguished SNS functionalities with emojis, auto translation, mini-games, and etc.
- Multilingual service for global market
- Intuitive UX for easy participation
Metal Slug Infinity

Popular arcade game METAL SLUG is back as an IDLE RPG! Battles with unique characters and combat vehicles are now at your fingertips!

All the characters and Slugs from the Metal Slug franchise are here!
- MARCO, TARMA, ERI, and FIO from previous Metal Slug games
- Defend against waves of Rebels, Guerrillas, Aliens, Mummies, and Zombies.
- Don't forget about P.O.W, they'll repay you with powerful weapons if you save them

The game has more than 4,000,000+ downloads on the Google App store with an average rating of 3.9 stars based on a total of 30,000+ reviews.
Endless Frontier Defence is a new concept for idle defence RPG games using intellectual property from the popular Endless Frontier!

- Early game: Defend against incoming waves of enemies that grows stronger!
- Mid game: Build your kingdom and recruit legendary heroes that can level up to become stronger, and secure additional territories to build your kingdom’s economy!
- Late game: Massive PvP environment against other players and strategize on how you can defend your kingdom while attacking other players for resources!

Endless Frontier Defence builds upon the years of experience that we have accumulated at EKKORR and our success at building games such as Endless Frontier with more than 30 million downloads.

The game is designed with blockchain integration in mind and we have created a sustainable and viable economic system for in-game items that can be attained in the game, while maintaining a fun and diverse gaming experience with content such as campaigns, exploration, tower of challenges, arena battles, invasions, hall of heroes and much more!

The game is also designed to be social with ease of communication among players to facilitate community building and trading of items.
Korea Mobile Game Association (KMGA) and Korea Blockchain Contents Association (KBCCA)

TriumphX has signed a Memorandum of Understanding (MoU) with KMGA and KBCCA on 29 July 2020.

The purpose of the MoU is to cooperate for the successful launch of the TriumphX blockchain-based decentralised P2P trading exchange for the trading of in-game items that has been tokenized on the blockchain.

The signed MoU also aims to popularize the use of blockchain-based games and to accelerate the commercialization of such games.
Team Members and Advisor

**Myungyong Shin - Co-Founder**
- B.S. in Computer Engineering, KAIST (Korea)
- M.A. in Seoul Nat’l Univ.
- CEO, Ekorr Co., Ltd.
- Recipient of Presidential Award for Export in Game Industry
- Idle Game “Endless Frontier” Developer

**Young-Han Byeon - Co-Founder**
- B.S. in Computer Engineering, Seoul Nat’l Univ. (Korea)
- Vice President, EF Games
- Analyst, Daewoo Securities
- Investment Examiner, Next Venture Investment
- Investment director, Platinum Technology Investment

**George Lee - CEO**
- Graduate School of Journalism and Mass Communication, Yonsei University
- Chief Director, E-business Dept., Daum Communication
- CEO at Tour Express
- Founder and CEO, Namu Communications
- Center Head in Busan and Kyungnam, Kakao
- 3rd President of Korea Association for Social Contents’ Development (KASCO)

**Sung-hee Noh - COO**
- Managed advanced IT convergence game projects at KOCCA (The Korea Creative Content Agency)
- Managed convergence smart content projects at NIPA (National IT Industry Promotion Agency of Korea)
- TriumphX platform planning
Team Members and Advisor

Kay Ro - Global Business Strategic Planner
• Business Development Marketing / PR (2012 - 2016)
• Business Development (2018 - 2020)

Candice Kim - Digital Marketing Head
• B. A. in Visual Communication Design, Dankook Univ., Korea
• Digital marketing planning and design for company SNS and blog
• Web designer at Creative Comms Co., Ltd.

Jong-hee Park - Blockchain Developer
• CTO of Tokyo Branch Inc., CEO of DPLIO
• Expertise in system security and full stack development
Team Members and Advisor

Mark Chang - Advisor
- Magnis CEO
- Gomz Game Studio, Director of Business
- PATI Games, Head of Business & Publishing
- Neowiz Games, Global Business Development & Operation
- Gravity Ragnarok2, Div. / Overseas Business

Sung-ik Hwang - Advisor
- President, Korea Mobile Game Association (present)
- President, Korea Blockchain Contents Association (present)
- Council Head, Busan Indie Connect Festival, (present)
- Co-head, National Assembly Korea Game Forum (present)
- Head, Indiecraft KGF (present)
- Advisor, Sinwon Law Firm (present)

Hoon Baik - Advisor
- Jim Beam Chicago HQ, Triumph Motorcycle UK, Publicis One, Philip Morris International and Hyundai Motor Company Global Company Design Project
- Hyundai Motors Genesis branding
- Responsible for graphic design and marketing production at Digital Gold Exchange

Nitesh Thakur - Marketing Advisor
Team Members and Advisor

Se-won Yun - Game Producer
- B.S. in Computing, KAIST (Korea)
- CTO, Ekkorr Co., Ltd.
- Developed and operating Endless Frontier
- Developed and operating Tiny Conqueror
- Developed and operating Puzzle Fantasy

Hyeon-Yong Choe - Game Producer
- B.S. College of Engineering, Seoul Nat’l Univ. (Korea)
- M.A. College of Engineering, Seoul Nat’l Univ. (Korea)
- Producer, Ekkorr Co., Ltd.
- Developed Endless Frontier
- Developed TouchTag & Signage Platform
- Developed Tiny Conqueror
- Developed Smart TV motion sensing 3D game

Ji-Hun Jeon - Game Producer
- B.S. in Industrial Management, KAIST
- Developed Endless Frontier
- Developed and operating Metal Slug Infinity

Jae-Ha Choe - Game Producer
- B.S. in Electrical Engineering, KAIST (Korea)
- Developed and operating Endless Frontier
- Developed and operating Tiny Conqueror
- Developed and operating Puzzle Fantasy
Team Members and Advisor

**Hong-Seok Choe - Game Producer**
- B.S. in Computer Engineering, Seoul Nat’l Univ. (Korea)
- Ekkorr Co., Ltd. (present)
- NCsoft (previous)
- Developed V4
- Developed Tale Seeker
- Developed Lineage II

**Sang-Won Jeong - Game Producer**
- B.S. in Mechanical and Aerospace Engineering, Seoul Nat’l Univ.
- B.A. in Business Management, Seoul Nat’l Univ.
- Ekkorr Co. Ltd. (present)
- Gameville (previous)
- Developed <Autopuzzle Defense>
- Business operation of <Grimm Notes>
- Investment Management of IDLE Idea Factory Co., Ltd.