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# ECONOMY LITE PAPER





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## 1. GUIDING PRINCIPLES AND DISCLAIMER

The Spider Tanks economy is player driven, and participants who win Spider Tanks matches may receive Victory Points that can be submitted for game token reward distribution.

The game token of this ecosystem is SILK\*\*, which is a fungible token on both the Ethereum Network as well as Gala's proprietary L1 blockchain, currently referred to as Project GYRI.

On Ethereum, SILK is an ERC-20 Token governed by contract 0xb045f7f363fe4949954811b113bd56d208c67b23

This contract address governs SILK on the Ethereum network only. Tokens on Project GYRI have different contract addresses and will be accessible through different indexers released at a future date. An official bridge between blockchains is provided within a user's Gala Games account.

SILK is acquired by involving oneself in the Spider Tanks ecosystem through playing and winning games, as well as by operating nodes and other products in the ecosystem. This document provides a quick overview of these systems - how players can be rewarded with and use SILK, what governs its issuance, etc.

#### NOTE

Please note that this document is subject to change at any time. In particular, the numbers provided here, unless otherwise specified, are for comparative purposes only.

All items may be subject to change as the game service and tokenomics evolve. In particular, items marked with an asterisk (\*) are still in active development and may be removed or adjusted substantially prior to release





<sup>\*\*</sup> Gala Games makes no predictions, promises or speculations about the value of SILK. All SILK rewarded through playing shall be unminted in a player's treasure chest. As such, in order to transfer, list, buy or sell, users must first actively mint the token.

## 2. SILK REWARDS

Any given participant in the Spider Tanks ecosystem receives Victory Points for participating in the Spider Tanks ecosystem. The participant may submit those Victory Points at the end of a day to receive SILK distributions from one of two sources:

the Daily Replacement New Mint Allowance (Replacement Allowance) and the Daily Non-Replacement New Mint Allowance (Non-Replacement Allowance).

The **Replacement Allowance** is a direct function of the short-term system's demand. When players spend SILK (for more on spending SILK, see Section 3. Spending SILK), it is sent directly by the user into the burn wallet. A given day's burn is tracked to determine the size of the following day's SILK Replacement Allowance mint allocation.

The **Non-Replacement Allowance**, on the other hand, is a function of the **circulating supply** of SILK relative to its **soft cap**. As such, the Non-Replacement allowance is implicitly governed by the **total burn** (and therefore **total spend**) of the ecosystem, in so far as that value informs the **circulating supply**. As the **circulating supply** of SILK approaches the **soft cap**, the size of the Non-Replacement Allowance will decrease.

Both the Replacement and Non-Replacement Allowance are explained in more depth in Section 4. Victory Point-to-SILK Ratio.

#### 2.1 Replacement Allowance

The Replacement Allowance of SILK informs the SILK distribution to the following participants: NFT Players and F2P Players.





#### 2.1.1 NFT Player

If a participant owns an NFT - namely a Tank Body, Tank Weapon or a Hero Tank consisting of the combination of the two - they are rewarded with Victory Points by playing and winning in the game, which can then be submitted for SILK distribution. To be more specific, every time they win a match, the specific number of Victory Points rewarded is based on the level and rarity of their NFT(s) used. The reward distribution follows a diminishing returns curve for a given day, and is such that they should be able to receive the majority of their daily distribution of Victory Points (~90%) within the first 10 victories\*\*, although they will continue to be rewarded for every match they win.

At the end of the day (00:05 UTC), those Victory Points will be totalled and the SILK Replacement Allowance distributed based on the Player Victory Point-to-SILK ratio for that day\*\*\*, with the appropriate amount of SILK placed in a player's Treasure Chest.

Note that in the future, Victory Points and other possible rewards per win may be generated with an additional layer of complexity, as those who contribute more to the match will receive more than those who contributed less.

- \*\* For more information, see the description of the Energy mechanic at 3.3
- \*\*\* See Section 4.1 NFT Player Victory Point-to-SILK

#### 2.1.2 F2P Players

Even if a player does not own a Tank NFT they may still participate in the Spider Tanks ecosystem by playing through the Pilot Program (see section 5. Pilot Program for more details).

#### 2.2 Non-Replacement Allowance

The Non-Replacement Allowance of SILK informs the SILK distribution to the following participants: Planetary Node Operators, Map Owners, Gala and Gamedia, Founder Nodes.





#### 2.2.1 Planetary Node Operators

Planetary Node operators, intended as the backbone of the Spider Tanks ecosystem, and may receive rewards for their availability and efforts. The Victory Points Node Operators receive will depend on the amount of matches they help facilitate daily. More uptime potentially leads to more cycles through the Node queue, thus more Victory Point rewards.

Node operators may also attach their Tank Body, Tank Weapon, or Map NFTs to their Node Depot; when those NFTs receive rewards as described above, the Planetary Node operator will in turn receive additional rewards - see 2.2.1.2 Node Depot. Planetary Nodes, and the activities connected to them (e.g. Maps), will be the sole source of constant **Non-Replacement Allowance** SILK in the Ecosystem.

#### **2.2.1.1 Node Queue**

For every Spider Tanks match, a Planetary Node and a player-owned map are paired together. They enable a given match to take place. Planetary Nodes wait in a Node Queue to be paired with a Map NFT for an upcoming match. Similarly, Map NFTs wait in a Map Queue to be paired with a Planetary Node for an upcoming match. Each time a match concludes, the paired Planetary Node and Map NFT separate and return to their respective queues. Map owners and Node operators will receive rewards for each match they host in this way. The Planetary Node operators distribution will account for 33% of the daily Non-Replacement Allowance.

#### **2.2.1.2 Node Depot**

Planetary Node operators can opt to attach their Tank Body, Tank Weapon, or Map NFTs to their nodes. Each node will have a limited number of spaces to place NFTs. Based on the amount the Victory points received through normal usage as described above, the Node operator will receive an additional reward.

Each node will have a number of spaces in the depot to place NFTs. These slots will entitle the Node owner to additional Non-Replacement Allowance allocation based on how many VPs the placed NFT received on that day. The Node Depot distribution will account for roughly 20% of the daily Non-Replacement Allowance.





#### NOTE

In order to receive rewards via NFTs in the Node Depot, the node must be online when that NFT is being used. If a node drops offline, operators will not receive rewards from their Node Depot.

#### 2.2.2 Map Owners

Map owners will receive Victory Points for allowing matches to be played on their Maps. Map owners will have their Map NFT linked to a Planetary Node, which will allow matches to be played on their Map. The Map owner's reward from a single match is equivalent to a percentage of the Victory Points given to the victorious team in that match. The number of matches that can be played on a given Map for a given time period is determined by the level and rarity of that Map - see section 3.5 Map Upgrades for more details. At the end of the day, Map owners may redeem their rewards to submit for daily Non-Replacement Allowance allocation. The Map distribution will account for 15% of the daily Non-Replacement Allowance.

#### 2.2.3 Gala and Gamedia

Gala and GAMEDIA - the publisher and the developer of Spider Tanks respectively - receive a combined total of roughly 30% of the daily Non-Replacement Allowance.

#### 2.2.4 Founder Nodes

Active Founder Nodes are distributed 2% of the daily Non-Replacement Allowance each day.





## 3. SPENDING SILK

SILK can also be spent in a number of ways, the chief of which is purchasing upgrades for a Tank Item NFT. Spent SILK is sent directly into the burn wallet. On a given day, the total daily spend determines the size of the following day's SILK Daily Replacement Allowance mint allocation.

#### 3.1 Arachnium

Arachnium is the in-game non-token currency of Spider Tanks, which can be obtained in two ways. It can be purchased in the Store with SILK.

Arachnium, in turn, can be used to purchase:

- Supercharge
- Upgrades
- Upgrade Rerolls
- Purchase Tank Parts

Once Arachnium is bought in the store (or claimed after a game) it cannot be exchanged for SILK and can only be used in game to purchase non-token products

Arachnium is non-token currency, as it allows users to make purchases and conduct routine transactions without initiating a blockchain transaction.





#### 3.2 Upgrades

To upgrade a Tank Weapon or Body, an NFT Owner will currently need to purchase the appropriate amount of Components and Arachnium, priced according to their rarity (later on, these items will become available in-game via the Factory mechanic)\* - a potential breakdown of component prices would look like this:

• Common ("Bolt"): 0.01 SILK

• Uncommon ("Scrap Metal"): 0.02 SILK

• Rare ("Chips"): 0.05 SILK

• Epic ("Hydraulics"): 0.10 SILK

• Legendary ("Engine"): 0.20 SILK

• Ancient ("Energy Core"): 0.50 SILK

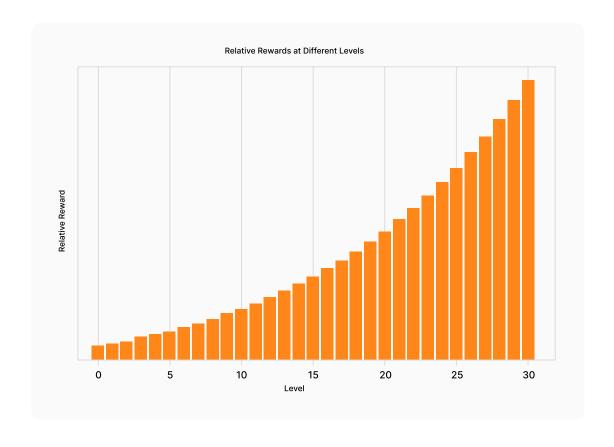
To upgrade an item of a given rarity, one will only need components of up to that rarity inclusively. For example, to upgrade a Common Weapon from level 0 to 1 a player will need to spend a fairly small amount of SILK, distributed between Arachnium and Bolts. To upgrade an Ancient Weapon from level 28 to 29, however, they will need to spend a much larger amount of SILK, divided between Arachnium, Bolts, Scrap Metal, Chips, Hydraulics, Engines, and Energy Cores.





#### 3.2.1 Upgrade Level

Upgrading a Tank Part serves a number of purposes. It directly increases the Victory Points reward potential of that item. The maximum number of Victory Points awarded to a Level 30 Common Weapon for a victory will be several times larger than that of a Level 0. Upgrading also, as the name suggests, increases the stats of an item and its effectiveness in gameplay. Each Part has multiple stats associated with it that will increase when upgraded independently within a range.







#### 3.2.2 Rerolls

To account for the fact that upgrade quality - how large the increase in stats is - is variable between Decent and Perfect, players have a chance to increase the quality of their upgrades prior to applying it. This is done by rerolling the upgrade for a cost equal to ~15% of the full upgrade to the next level. Note that rerolling does not guarantee a higher quality of upgrade - if a player has a Good upgrade, for example, there is no guarantee that, on rerolling, it will become Excellent rather than Decent. At the same time, the number of rerolls a player can apply to a given upgrade is not limited. Please note that re-rolls will be restricted to specific geographic regions only.

#### 3.3 Supercharge

As a player wins matches during a 24 hour period (12am GMT), they receive diminishing Victory Point rewards for each win. Supercharge is a mechanic that allows players to fix a certain Part's VP potential at 5x its normal value for the first win. This continues for 5 matches, after which, the Part continues to provide diminishing returns as if the Supercharged matches never happened.

Supercharge only lasts for five matches, regardless of whether a player wins or loses. Supercharge currently cannot be used in the team queue.

Supercharge is purchasable with Arachnium individually by Tank Part through the in-game garage. The price for each Part is variable based on the factors that influence its potential VP (rarity, level, etc) as well as the VP:SILK ratio from the previous day's replacement allowance.

#### 3.4 Purchase Tanks in Store with SILK

Players are able to use the SILK they have received to purchase Tank items; including Bodies, Weapons, Skins, Props and Hero Tanks.

Sales of Tanks in SILK will occur at limited times, and the quantity of NFTs is likely to be even more constrained than for usual sales.





#### 3.5 Other Uses

As more and more elements are added into the game, players will be able to purchase other items in SILK as well.. See section 9 for more detailed information on upcoming updates.





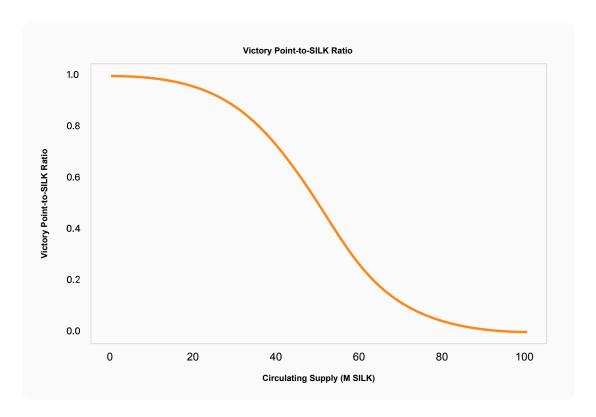
## 4. VICTORY POINT-TO-SILK RATIO

#### 4.1 Overview

The distribution of SILK at the end of a day is governed by the Victory Point-to-SILK ratio for that day, in turn informed by the amount of Victory Points accumulated by each participant at the end of the day, as well as the current supply and demand for SILK. This mechanism is introduced in order to implement a **soft cap** on the amount of SILK circulating both in the Spider Tanks economy and beyond. The magnitude of the **soft cap** is determined by the expenditure into the Spider Tanks ecosystem.

SILK will always be the only currency of the Spider Tanks ecosystem, and as that ecosystem grows in size, supply will not increase in-kind. SILK output is thus designed to become more scarce over time.

In broad terms, the Victory Point-to-SILK ratio for any given day is determined by the following parameters: the current **cumulative mint** as well as the **total burn** up to that day. The long term relationship between the Victory Point-to-SILK ratio and the circulating supply is described by the chart below:





As a long-term trend, as the amount of **cumulative mint** increases, the amount of SILK rewarded per Victory Point tends to decrease. At the same time, rather than accepting SILK spent in our store as revenue, all SILK received for purchases in the store will be sent to the null address and therefore burned. As a counterbalance to the decrease of the Victory Point-to-SILK ratio, as the **total burn** increases, so does the Victory Point-to-SILK ratio. As the **circulating supply** of SILK tends towards the **soft cap** of 100M, the Victory Point-to-SILK ratio approaches 0, meaning at some point in the future, rewards will tend towards 0 as well, if there is no SILK spent in the game.

#### 4.2 Detailed Descriptions

**Circulating supply** will not be the sole determinant of the Victory Point-to-SILK ratio for any given participant. Despite **circulating supply** acting as the ultimate limiting factor for SILK issuance, the underlying mechanism is slightly more complex.

As such, there will be a different Victory Point-to-SILK ratio for a participant depending on which Allowance - the Replacement Allowance or the Non-Replacement Allowance - is used when determining their distribution.

#### 4.2.1 NFT Player Victory Point-to-SILK

SILK Issuance to Tank NFT Owners and captains will be based on the Replacement Allowance (see section 2). Players who want to use their Victory Points for SILK distribution will receive SILK from that Replacement Allowance allocation.

This means that the Victory Points-to-SILK ratio for players is somewhat variable, and dependent on the **total burn** (and therefore **total spend**) from the previous day.

Given that the Victory Points-to-SILK Ratio can only go as high as 1, there will be potential SILK 'left over' to be distributed in the future. This potential SILK will be gradually added to the mint allocation in order to maintain SILK availability based on the system's demand. The use of this 'left over' SILK allows for more consistency in the NFT Players' Victory Points-to-SILK Ratio on a day-to-day basis.

In addition, temporary Non-Replacement Allowance may be added to the NFT Player SILK issuance at the sole discretion of Gala and GAMEDIA.





#### 4.2.2 Planetary Node Operator Point-to-SILK

Planetary Nodes will be the backbone of the Spider Tanks Ecosystem. They will provide the essential workload to ensure the whole system works properly by hosting matches and servers.

As such, Planetary Node Operators rewards will come from the SILK Non-Replacement Allowance (as opposed to players' Replacement Allowance), determined as a function of how many matches were hosted on that given day, and therefore the magnitude of the total workload. The amount each Operator will, in turn, receive from the Total Daily Non-Replacement Allowance, will be a function of the workload they have individually contributed on that given day. (see 2.3 Planetary Nodes). The higher the level of the Planetary Node, the larger the workload that it can perform.

Note that the rate of Non-Replacement Allowance allocation of SILK will decrease in the long run if mint allocation amount is greater than total burn and therefore the circulating supply of SILK approaches the soft cap.

#### 4.2.3 Map Owners Victory Point-to-SILK

SILK distribution for Maps will be a function of how many games the Maps have hosted. As such Map rewards will be governed by the size of the daily Non-Replacement Allowance and the total number of Victory Points issued on that day.





## **5. PILOT PROGRAM**

In order to allow players to utilize all of their items more effectively, the Pilot Program is a mechanic by which the owners of Tanks (Captains) can allow other players (Pilots) to play with their Tank. Whether a player owns an NFT Tank or not, anyone can play with a Captain's Tank and receive a portion of the Victory Points that would have been available to the Captain had the Captain used it themself.

When a Captain participates in the Pilot Program, they may submit only one Tank into the Program every 24 hours for each Drop Pod in their account. The Tank will be locked into the Program for that time period and will be returned to the Captain automatically at the end of it. The Captain must resubmit that Tank - or any other - if they want to participate in the Pilot Program again. As the timer approaches zero on any given Drop Pod, an option will appear to extend the timer, allowing the Captain to reset the time for the included Tank Part to 12 more hours in the Drop Pod.

When the Captain's Tank is used by a Pilot, the Captain will receive a portion of the Victory Points from the matches won with their Tank.

From the Pilot's perspective, the initial launch of the Pilot Program will take the form of a random assignment of Tanks from the available pool. A player, regardless of whether they own a Tank, can participate in the Pilot Program so long as there are Tanks available in the Pilot Program, and temporarily receive a random Tank from that Tank pool.

In the event of victory, they will split the Victory Point rewards with the Captain, while the Tank may be recalled by its owner. Currently, a Pilot can go through a diverse array of Tanks to pilot over the course of several matches, varying in rarity and level. As the game grows, the Pilot Program will become more complex with a more robust correlation between the experience of the Pilot and the quality of the Tank they will be assigned.





## **6. Honor System**

The Honor system was created to keep players incentivized to engage in the Spider Tanks ecosystem, and therefore improve the game experience for those participating in the game and its underlying tokenomic structure.

The Honor system aims to achieve this goal by directly affecting the rewarded Victory Points of players who act against the fundamentals instilled into the game ecosystem. It is important to note that the current iteration is not the final state of the Honor system - we have designed it through listening to our community and its suggestions and will continue to refine it over time.

In simple terms, everyone who participates in this game has a potential to receive Victory Points based on their successes in the game (as outlined in this paper). While the potential to receive Victory Points in a day is unlimited, a player's ability to receive their maximum available Victory Points possible per win is limited by that player's Honor score.

All new accounts begin with 300 Honor score, and the maximum attainable score is 1200. Negative actions, such as transferring SILK to another account or bridging out from GYRI to ETH, reduce Honor score relative to what percentage of total SILK in a player's account was transferred. Positive actions, such as bridging SILK into GYRI from ETH or daily play, increase a player's Honor score up to a maximum of 1200.

When a player receives VP, the total they receive will be multiplied by their percentage total score out of maximum 1200 Honor. This means a player with 600 Honor would receive half the Victory Points of a player with 1200 and the exact same potential, etc.





## 7. 'DYNAMIC SUPPLY' MECHANISM

Under the Dynamic Supply Mechanism, Gala Games and GAMEDIA will maintain ability and access to a few controls to use at their own discretion. In the beginning, these are the controls that Gala Games and GAMEDIA foresee possibly using:

#### 7.1 POINT-TO-SILK Ratio

In addition to the straightforward dynamic of the Victory Point-to-SILK ratio outlined in P.4, Gala Games and GAMEDIA may increase or decrease the Victory Point-to-SILK ratio.

#### 7.2 Component Price

Components (data-base items) - priced in SILK directly, not US Dollar equivalent - may also see their prices adjusted to reflect changes in rate of issuance.





## 8. DROPSHIPS

Dropships are a game feature that will enable players to remotely command their armada of Tanks.

Every player will have access to the Dropship feature. All Dropships will start with one Drop Pod, in which a player can place one Tank. This Tank will be placed into the Pilot Program and be made available to other players. Players will be able to purchase upgrades to add additional Drop Pods to their Dropship, which increases the number of Tanks a player can place into the Pilot Program at once. (See 5. Pilot Program for more details).

As the Dropships feature continues to improve, players may be able to further upgrade their Dropship to place their Tank into the Al Program - where it could potentially be run by a customizable and upgradable Al Pilot.





## 9. UNDER CONSTRUCTION

As the web of the Spider Tanks ecosystems becomes more robust, we will be introducing new elements to the economy, gradually increasing its complexity and the number of ways players can interact with it.

Please see an incomplete list of the updates we are looking to introduce below, and note that it will be updated with dates and more details as we move closer to implementing these mechanics.

- · Consumables to provide in-game buffs and benefits during play,
- . Cosmetics to allow players to make their Tank truly stand apart from the rest,
- A fully integrated Land and Factories system that would allow players to receive components in-game, to be detailed fully at a later date,
- A mechanic to allow players to engage in uncapped reward generation at the highest level of play.
- And more...





#### NOTE

## PLEASE READ THE ENTIRETY OF THIS "DISCLAIMER" SECTION CAREFULLY.

The information set out herein is only conceptual, and describes the future development goals for the SpiderTanks protocol to be developed. In particular, the project roadmap in the Litepaper is being shared in order to outline some of the plans of the SpiderTanks team, and is provided solely for INFORMATIONAL PURPOSES and does not constitute any binding commitment. Please do not rely on this information in making purchasing decisions because ultimately, the development, release, and timing of any products, features or functionality remains at the sole discretion of the Company, the Distributor or their respective affiliates, and is subject to change. Certain statements, estimates and financial information featured in this Litepaper are forward-looking statements that are based on and take into consideration certain known and unknown contingencies and risks which in eventuality may cause the estimated results or may differ factually and substantially from the featured estimates or results extrapolated or expressed in such forward-looking statements herewith. Further, the Litepaper or the Website may be amended or replaced from time to time. There are no obligations to update the Litepaper or the Website, or to provide recipients with access to any information beyond what is provided herein.







