

REVV Motosport - Shard Token (SHRD)

Lightpaper

v1.0

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Introduction

The Shard Token or SHRD, is a multi-experience, cross-blockchain fungible token for the REVV Motorsport ecosystem. SHRD exists to primarily reward the act of play and engagement.

Becoming the primary reward for participation in the REVV Motorsport ecosystem, and sitting below the REVV token in the wider economic model. SHRD use is experience or game specific, designed to ensure that the utility is relevant to the manner that it is earned: if you earn SHRD through play, its use will enhance your play experience.

SHRD will first be supported in *REVV Racing*, as the main Play-and-Earn token. Future REVV Motorsport titles will support SHRD, expanding its utility, as the earn directly connects to a use.

SHRD will be deployed to Ethereum and Polygon as an ERC-20 token, and bridged to the Flow blockchain, ready to support titles such as *MotoGP™ Ignition* and *Formula E High Voltage*.

REVV and SHRD Together

Although SHRD becomes the primary token of earn, the existence, importance, and utility of REVV remains at the core of the REVV Motorsport ecosystem.

The REVV token is the primary utility token for purchasing, and entry to exclusive events and game modes. It will still remain as a reward, but as a supplement to SHRD in this context.

But similar to REVV being the only way to access specific content, SHRD will also grant access to specific content, too. With SHRD utility based on what works within the context of that product's design.

In this document, we present SHRD utility for the *REVV Racing* game platform as an example of SHRD utility.

SHRD Tokenomics: REVV Racing

Introducing REVV Racing

REVV Racing is an arcade-simulation racing game, which is playable via web browser. It uses the Polygon blockchain for the game's NFTs, which mostly exist as cars. The REVV token is required to access rewarded game events, and to purchase exclusive NFTs.

Players of REVV Racing have already been accruing SHRD since the token was announced 1st December 2021.

Earnable sessions were originally capped at five per-24 hours. With the first mint of SHRD, the cap will be removed, meaning that all paid sessions can earn SHRD.

SHRD Earning System

In REVV Racing, SHRD is earned based on distance driven. SHRD are earned by the mile, with each track having a set number of miles for a single lap. Earning isn't dynamic, so more SHRD is not accrued by simply driving aimlessly on a track.

SHRD is only earned through 'premium' events - game events that require an entry fee. No SHRD will be earned from completing "Practice" or "Test Centre" sessions.

The earn rate for SHRD is based on a combination of the REVV fee, event type, and car rarity, but these are variables to a base earn of 5 SHRD per-mile. An example of this can be seen in the tables below. Note: these are for reference only, the final earn rate for an event can be viewed on the specific event details on the game website.

SHRD Earning Rate Example - Entry Fee Multiplier

REVV Entry Fee	SHRD Earn Per-Mile*
0.5 REVV	0.75
1 REVV	1
5 REVV	1.25
20 REVV	2

**1 = 100% earn rate. If the earn rate is 0.75, 3.75 SHRD would be earned per-mile.*

In addition to the SHRD earned directly from play, SHRD 'bundles' (a bundle referring to a 1 time per-event lump sum) and REVV bundles are still won based on achieving certain ranks during events. REVV rewards won't be applicable for every event type, but SHRD bundles will be awarded for ranked play at minimum.

SHRD Earn and Prize Pools Example

Rank	REVV Reward	SHRD Reward	SHRD Earn Rate
1st	20	200	1
2nd	18	180	1
3rd	16	160	1
4th	12	120	1
5th	10	100	1
6th	8	80	1
7th	7	70	1
8th	6	60	1
9th	5	50	1
10th	4	40	1

SHRD will also be earnable in future REVV Racing features, such as Car Masteries, Daily and Weekly Challenges, and Multiplayer.

Car Rarity SHRD Earn

The rarity of each car (there are a total of six in REVV Racing) dictates the base earn rate of that car. With Common cars earning at the default rate, and Apex earning at the highest possible base rate.

Rarity	SHRD Earn Multiplier
Entry*	0
Common	1
Rare	1.3
Epic	2.1
Legendary	4.5
Apex	8

These numbers are also to serve as a reference.

**Entry refers to a free class of car that is unable to earn SHRD through play, or be utilised in the Fusion System.*

SHRD Earn Per-Track

REVV Racing currently contains 5 playable Track layouts of varying lengths. The below table displays the length of each track, and the payout based on a single lap event without multipliers.

Circuit	Lap Count	Length (Mile)	SHRD Per-Lap
REVV International Circuit (RIC1)	1	3.38	16.9
REVV International Circuit 2 (RIC2)	1	6.95	34.75
REVV International Circuit 3 (RIC3)	1	7.45	37.25
REVV International Circuit -Reverse- (RIC4)	1	6.95	34.75
Joey Logano Grand Prix (JLGP)	1	5.43	27.15

The above assumes a SHRD earn being set at a value of 1, with a Common car being raced.

To illustrate how SHRD earn multipliers take effect, there are several sample events below. Note, that this also maintains the SHRD earn as 5 SHRD per-mile.

Track	Laps	Rarity	REVV Fee	SHRD Earn
RIC1	3	Common	0.5	38.03
RIC1	2	Rare	1	43.94
RIC2	1	Rare	5	56.47
RIC2	2	Epic	5	182.44
JLGP	2	Apex	1	434.40

Earning multiplier formula:

$$((SHRD\ Earn\ Base * Entry\ Fee) * Rarity) * Distance = Total\ SHRD\ Earned$$

SHRD Issuance

SHRD supply is not capped, but the emission is controlled. SHRD is also burnable. When used they are destroyed, opposed to transferred (compared to a REVV purchase for example). So the circulating supply of SHRD is fluctuating based on the amount earned and the amount used.

Initially, SHRD will be airdropped, before moving to a self-claim system. Where users can claim SHRD based on any that they've accrued through play activity or play related achievement.

SHRD will be issued initially under a monthly fixed supply. Due to the monthly cap on the amount of SHRD minted, the rewarded SHRD will be balanced to prioritise players who are more engaged.

The amount of SHRD they will receive for the monthly cycle is relative to the amount of SHRD earned by a player in total. For example, if Player A has earned 1,000 SHRD, and Player B 100 SHRD, and the supply for the month allows for 100 SHRD per-player average, Player B would not receive 100% of their pending rewards. Instead, Player A would receive 100 SHRD, while Player B receives 10 SHRD. The actual rewarding will not be a simple flat percentage, but include other factors such as:

- **Recent activity:** Activity by a player that relates to REVV Racing e.g. gameplay sessions
- **Total lifetime sessions:** Total number of sessions a player has performed. This counts only "Event" sessions (paid), not Practise or Test Centre.
- **Car ownership:** The number of cars owned

Example Implementation:

- The payout cycle is 30-Days: those to be included in rewards need to be active during this payout cycle, with the issuance happening at the end of the 30-Day period.
- If a user hasn't been active during the 30-Day cycle, they will not be included in the payout round, regardless of any past accrual of SHRD.
- Those who participated in the last 30-Day cycle are now eligible for payout, and will be measured against two parameters:
 - Cars Owned
 - Sessions Completed (Paid)
- "Cars Owned" has a greater weight than played sessions in the final consideration (e.g. x10). Cars Owned will also begin to factor in the rarity tier of the car, and have that be applied as a multiplier to the weight. For example, a Common Car would be worth a multiplier of x1, a Rare Car a multiplier of x1.2
- All applicable users have the above calculated, with the 'Points' summed up and a single user's contribution interpreted into a percentage.
- This percentage is then used for the payout calculation, with that user receiving up to the same percentage from the monthly issuance. Consider the percentage as a maximum payout per-use for that cycle.

Sample Table of Payout

User	Active User	Cars Owned	Owner Multiplier	Sessions Total	Total Points	% of Pool	Total Reward
A	YES	5	50	12	62	3.23%	1,617
B	NO	-	-	-	0	0.00%	0
C	YES	3	30	55	85	4.43%	2,217
D	YES	1	10	3	13	0.68%	339
E	YES	50	500	66	566	29.53%	14,763
F	YES	42	420	400	820	42.78%	21,388
G	YES	14	140	35	175	9.13%	4,564
H	NO	-	-	-	0	0.00%	0
I	YES	4	40	80	120	6.26%	3,130
J	YES	1	10	66	76	3.96%	1,982
			10		1,917	100.00%	50,000

Above uses a pool of 50,000 SHRD for the payout

The above requirements are not only designed to ensure that the most active players are rewarded as a priority, but to those who are involved in REVV Racing through car ownership, or longevity, regardless of their performance in competitive play.

SHRD minting and issuance will reach a point where the requirements will lower for a better, more rewarding experience for new players. But in the event of *major growth spikes that do not necessarily justify a larger SHRD mint, the same player qualification checks will be made.

**Sustained growth will justify an increased mint, but sporadic activity spikes will not.*

SHRD rewards will also reach an equilibrium where the issuance per-month is covering all of the rewards for the month that they have been earned. The above systems on measured compensation are mostly in place to deliver on past earned play. A non-centralised issuance of SHRD is mentioned below.

REVV Racing - Fusion System and Catalyst (CATA)

One of the core utilities for SHRD in REVV Racing is the Fusion System. In brief: the Fusion System allows car owners to 'fuse' a car (which exists as an ERC-1155 NFT on Polygon) with another car, and other NFT assets (including those unrelated to REVV Motorsport), to generate new cars.

Fusion is the only way to access certain cars, with those cars granting the owner access to car specific events and gameplay content. This ensures high value utility for SHRD within REVV Racing, as it is the only means to access considerable gameplay content and exclusive NFTs.

SHRD is not directly used in Fusion. Instead, by proxy via the creation of the Catalyst asset, or CATA. CATA is created through the burning of SHRD, with CATA being a necessity for Fusion. CATA is also an ERC-20 token that exists on Polygon. It is burnable, destroyed on use in Fusion.

The economics of CATA will be detailed in full in a separate document that will also go into specifics regarding the Fusion System, and how the exchange rate of SHRD:CATA is mapped to a bonding curve, that ensures a higher SHRD per-CATA in circulation (active supply, not historic supply), which balances the overall SHRD supply and REVV Racing car supply. But the initial conversion of SHRD to CATA is 5,000 SHRD: 1 CATA. Additionally, the number of CATA required per-car increases based on the rarity and quality of the car generated from the Fusion System.

SHRD Tokenomics - MotoGP™ Ignition

Introducing MotoGP™ Ignition

MotoGP™ Ignition is a multi-game and collectible experience on the Flow blockchain. Players can collect Card NFTs, Video 'Hot Shot' NFTs, and gameplay specific assets (bike parts and rider gear), as they compete against other players in the *MotoGP™ Ignition Manager* and *MotoGP™ Ignition Champions* game modes.

MotoGP™ Ignition will be the second title to support SHRD. It is also important to note that with the support of SHRD within MotoGP™ Ignition, comes the support of SHRD on the Flow blockchain, and the SHRD token bridge between Polygon and Flow. This allows for players of both REVV Racing and MotoGP™ Ignition to take SHRD earned from one game, and use it in another.

The support of SHRD in MotoGP™ Ignition, will increase in the base SHRD emission per-month. The emission increase being in reference to the active player base. A simple scenario sees the SHRD supply double per-month.

SHRD Tokenomics - REVV Motorsport Tracks

Track NFTs and Ecosystem Usage

Tracks, circuits or courses, (referred to as Tracks for the remainder) are interoperable NFTs across REVV Motorsport. The interoperability of the asset does not necessarily come from direct action (like interoperable car NFTs, for example), but passive inclusion.

Today, Tracks include the *REVV International Circuit*, *Joey Logano Grand Prix*, *Hong Kong Raceway*, and *Hockenheimring*. With the former two already being live and playable in REVV Racing.

Tracks are broken into several segments, each segment being an NFT. These segments are based on parts of the asphalt itself (the track), or auxiliary elements (such as garages). The asphalt segments of the Track are able to generate SHRD. SHRD generated is based on the SHRD generated through play (overall activity), and in-Track advertising.

To earn SHRD through ownership, owners are required to stake the Track segment, along with REVV. While the Track segment and REVV are staked, SHRD will be accrued.

The full economics of Tracks will be shared in a future document. But as Tracks do generate SHRD, the presence of staked Tracks has a direct impact on the SHRD emission rate once Tracks staking is released. .

SHRD Mint and Supply

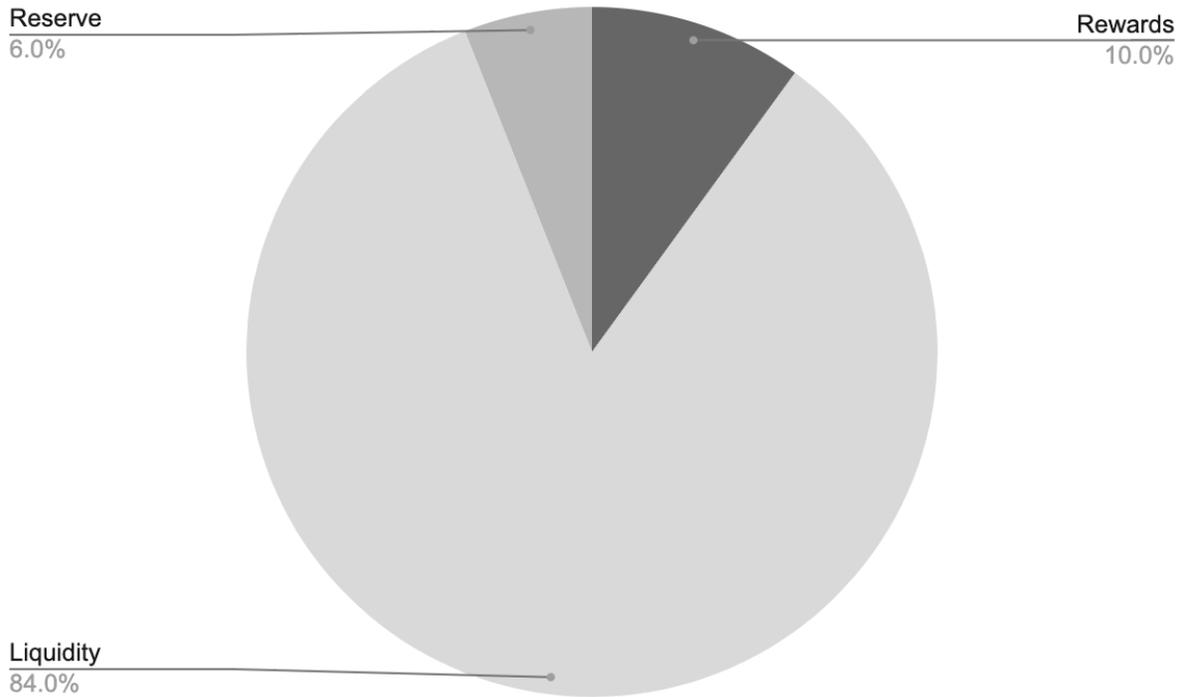
The initial release will see 30,000,000 SHRD minted upon genesis, and then 2,000,000 per-month as earn rewards for at least the first two months. Of the genesis mint, 3,000,000 SHRD will be allocated to rewards, while 25,000,000 will be used for liquidity.

To seed liquidity for the token on Decentralised Exchanges (DEX), as SHRD will be paired with REVV on Polygon. With the REVV being provided by REVV Motorsport.

DEX Pool Supply

REVV Motorsport will set up an initial pair on Polygon DEX with REVV, this is to seed the initial liquidity for the SHRD token, and pair it with a token of value. The initial set-up will see the REVV/SHRD token value to be set at 1:5.

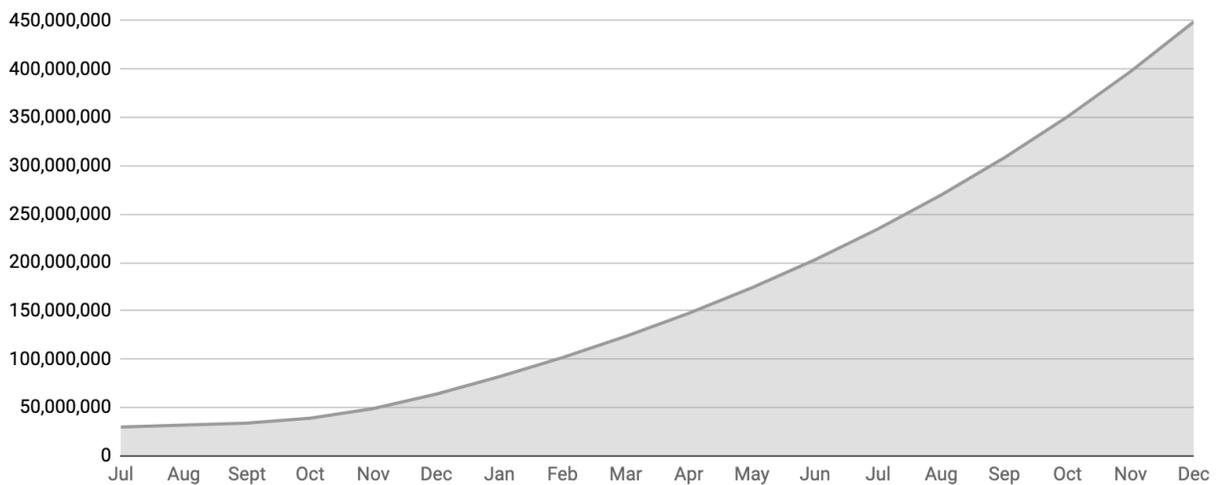
Overall Supply (Genesis Allocation)



- **Liquidity:** 25,000,000 SHRD is for the REVV/SHRD pair on Polygon DEX
- **Rewards:** 3,000,000 SHRD for the first reward drop
- **Reserve:** 2,000,000 is set aside in the event of liquidity and price fluctuations of the paired token

Current Emission Scheduled

Emission Schedule - Year 1.5



This schedule represents the total minted SHRD, not the circulating supply of SHRD. This is due to SHRD being burned upon use, meaning the circulating supply at any point of the schedule will always be less than the amount that has been issued.

The emission of SHRD will be based on the adoption and utility of SHRD, and the active user base of the relevant titles. Control over the initial emission is by-design, so there is not a surplus of SHRD in circulation early, and also, that SHRD is only granted to active ecosystem participants.

Automated SHRD Issuance

The current format of having direct control over the SHRD emission is considered a short-term restriction as we build out the utility. Once robust utility across multiple products and experiences is provided, we will take steps to look into a system that allows for the SHRD token to be emitted based directly on the earn and demand.

The purpose for this is two-fold:

- SHRD will reach equilibrium in regards to the utility and burn rate, and the emission.
- Decentralisation is a core facet of REVV Motorsports approach to blockchain. We do not wish to be a gatekeeper, or centralised controller of how the ecosystem operates.

Notes and Disclaimers

- Any emission and earn rates of SHRD are subject to change based on growth and performance of titles that support SHRD.
- Fungible-token rewards are subject to a KYC check. Only users who have cleared the KYC structure for the applicable title where rewards were accrued are considered valid for receiving any fungible tokens, such as SHRD or REVV.
- The above notes are applicable for all titles that utilise SHRD, regardless of blockchain, studio, or company, operating the title.
- Animoca Brands Limited and REVV Motorsport, and it's related titles and partners, are not responsible for any loss that users may encounter when interacting with any of their titles or fungible tokens, including but not limited to the REVV token and SHRD token, regardless of blockchain.