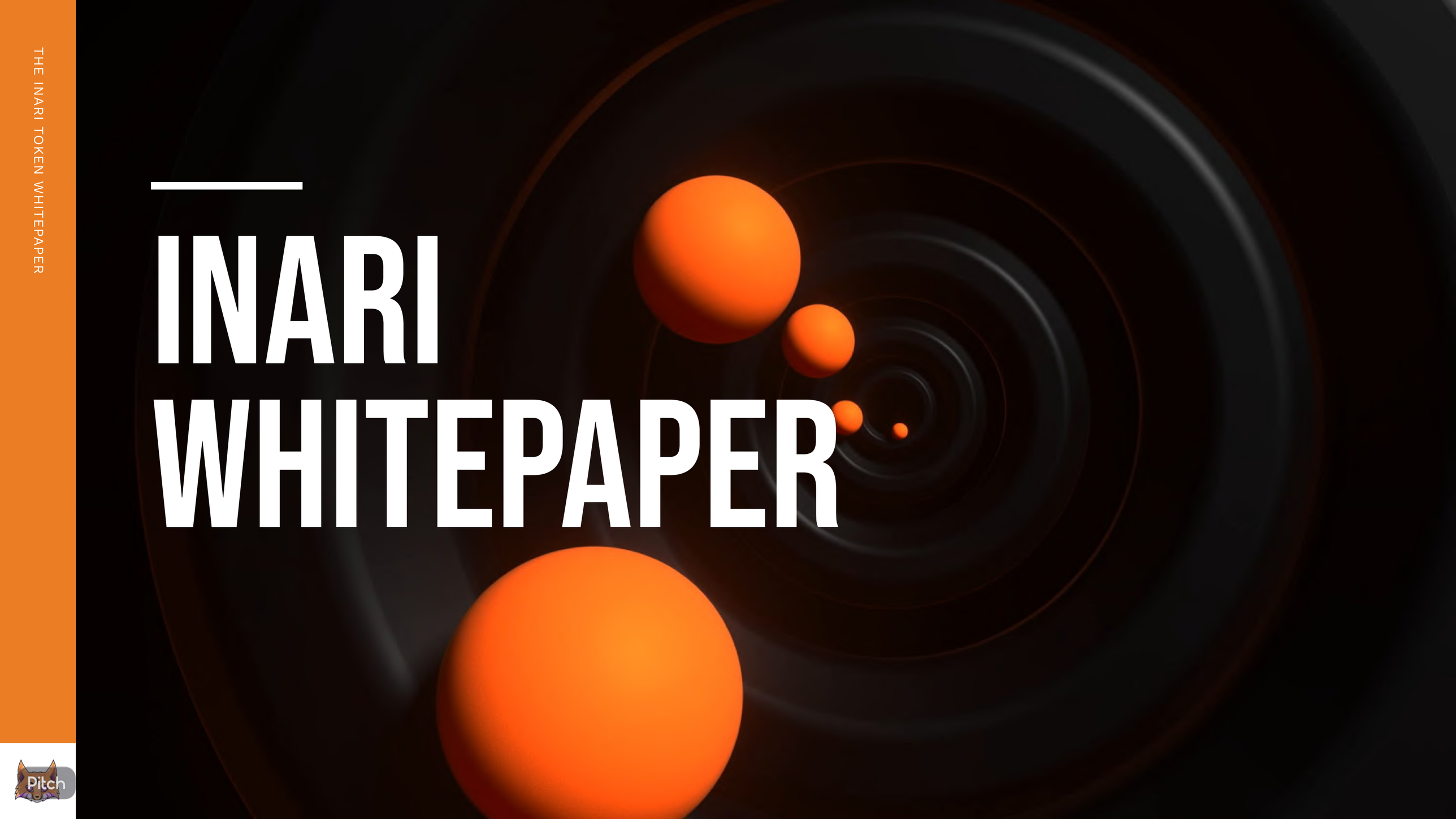
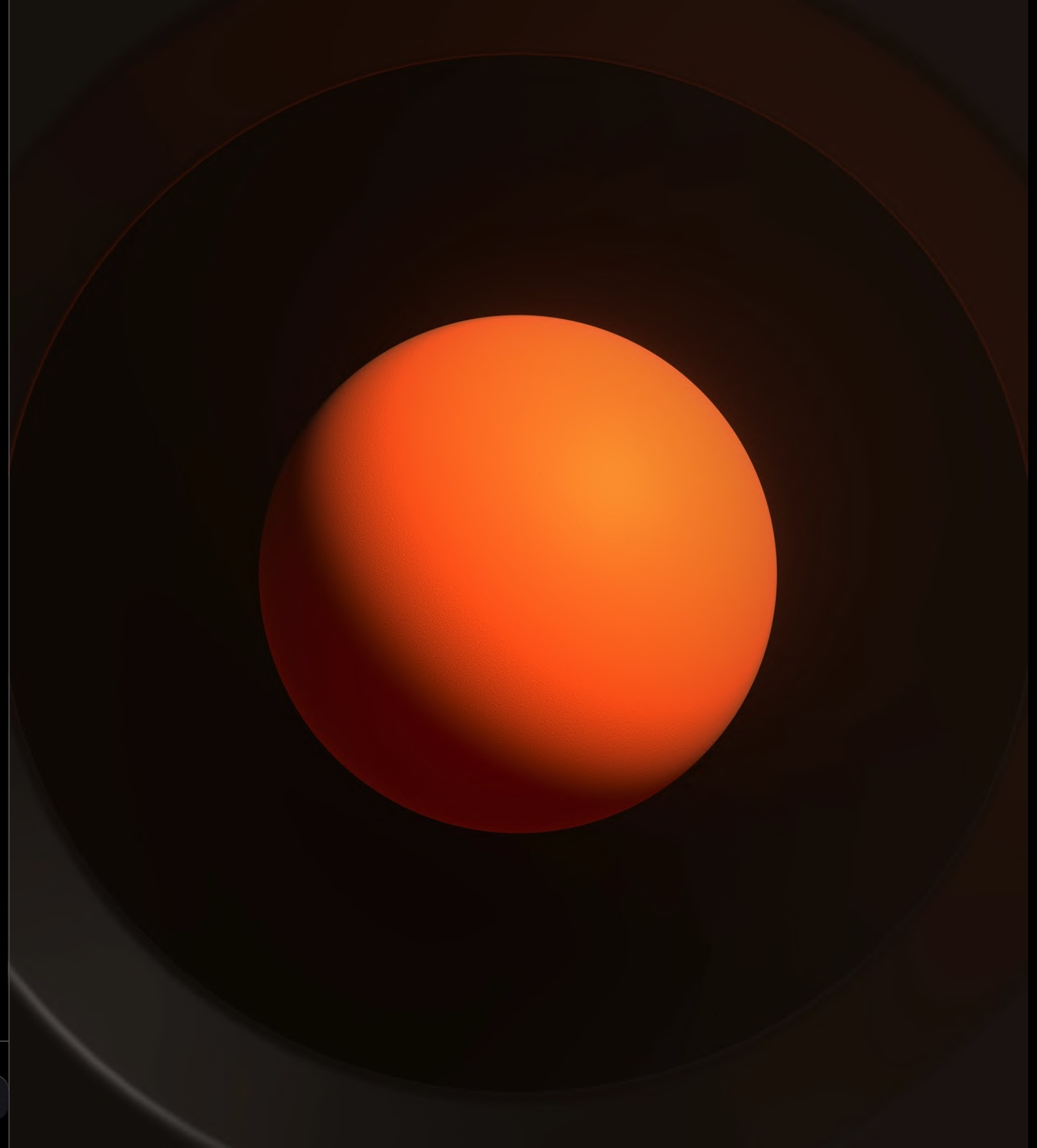
INARI WHITEPAPER



INARI TOKEN

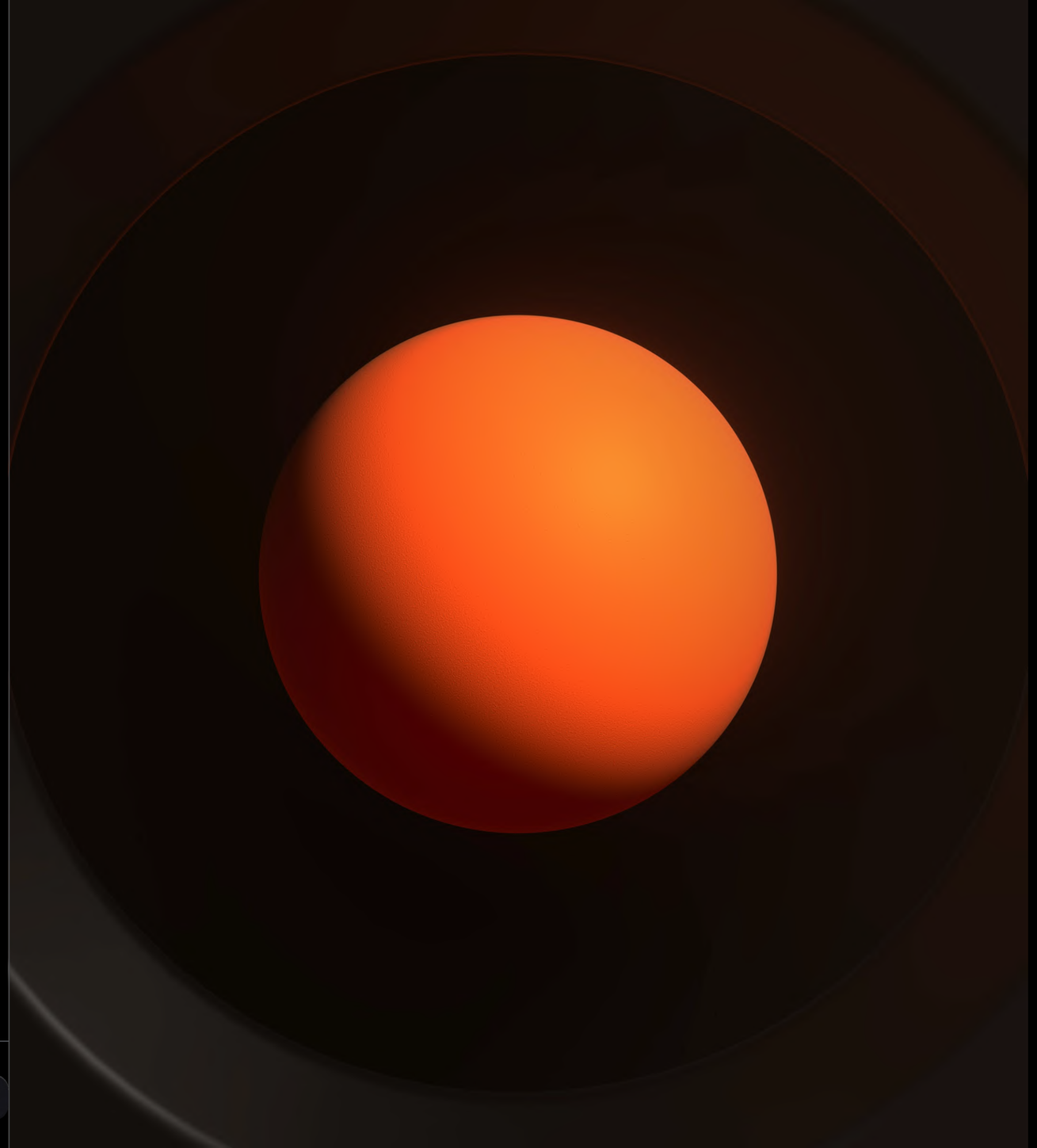
Inari is an ERC-20 token designed specifically to disincentivize sells, while fully allowing them, with the goal of creating conditions in which the token can continuously grow over time. This is done through a dynamic fee and buyback system, which allows the contract to react to market conditions dynamically and intervene when there are attempts to sabotage its growth.



INTRO

The introduction of buyback tokens into the ERC/BCB ecosystem was plagued with various issues, the main one being that these tokens did not fulfill their principal purpose which was to use the buyback functionality to promote steady and healthy growth. Instead, buyback tokens (such as EverApe[1]) would turn into pump and dumps. Investors use the buyback as exit liquidity and there is little incentive for holding the token when there is no imminent buyback on the horizon.

1. EverApe: https://twitter.com/everapetoken



INTRO

Inari was created as an innovative solution to these issues. Its dynamic buyback doesn’t generate huge pumps in a short amount of time like a manual buyback does. Instead, it allows for longer, more organic and sustainable growth. Moreover, the dynamic buyback acts as a deterrent for huge sells. Whale dumps are punished not only by the dynamic fee but also by the buyback.

DYNAMIC BUYBACK

HOW IT WORKS

THE FORMULA

The dynamic buyback is the core innovation in Inari, it may seem complex at first but at its core the functionality is very simple. The buyback contract accumulates Ethereum from the liquidity tax on transaction fees. Whenever someone sells Inari tokens, if the buyback is enabled, the contract will buy an amount of tokens proportional to the price impact of the sell and burn them.

$$\text{BUYBACK AMOUNT} = \text{BASE AMOUNT} * \left(1 + \frac{\text{DYNAMIC FEE} - \text{STATIC FEE}}{\text{STATIC FEE}} * K\right)$$

MANAGED SOLUTION

The base amount and the fees can be set, within limits, by the owner of the contract, this is because automated buyback smart contracts are inefficient left to themselves.

Implementing hardcoded parameters and a fixed, immutable behaviour leaves the protocol vulnerable to malicious attacks. This allows the owner to find the optimal buyback parameters as the project keeps growing and to prevent bad actors from exploiting the contract and draining the buyback wallet.

BREAKDOWN

CONVENTIONAL BUYBACK

In previous contracts, a conventional static buyback has been used, this means the buyback does not scale with the Price Impact, and as such the actions of the buyback are arbitrary and disconnected from the current price action.

K = 1

When the buyback is activated, the Inari smart contract buys back tokens after sells for an amount proportional to the price impact of the sell. This makes Inari contract “smarter”: it doesn’t waste funds on pointless pumps but instead reacts dynamically.

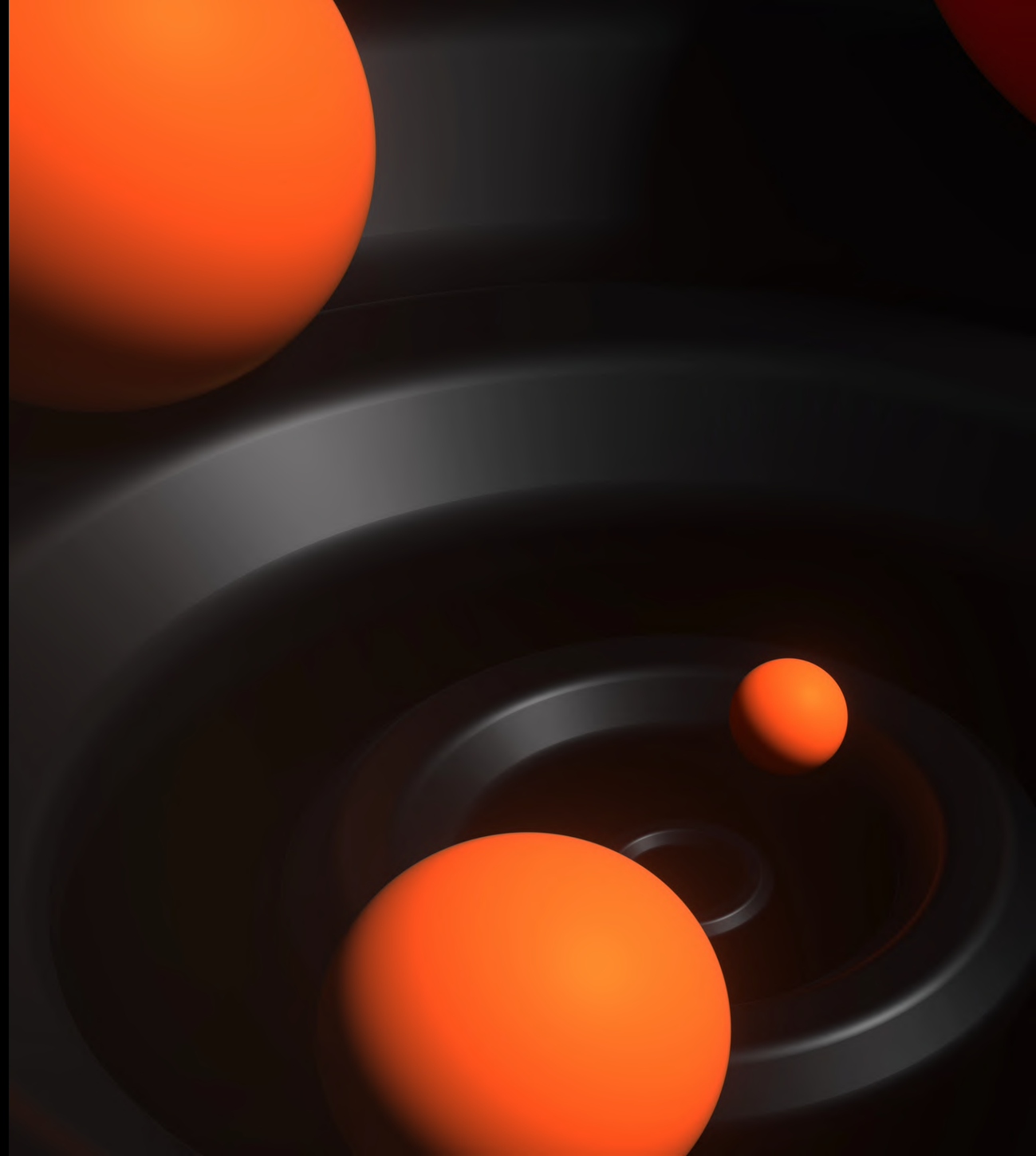
K > 1

Inari's buyback mechanism allows for supercharging buybacks. This is Inari unleashing its full power. When the k variable is set > 1 buybacks will be further boosted by an additional multiplier. In this mode, huge sells will cause an **INCREASE** in price. Whales will think twice before selling.

ADDITIONAL CONSIDERATIONS

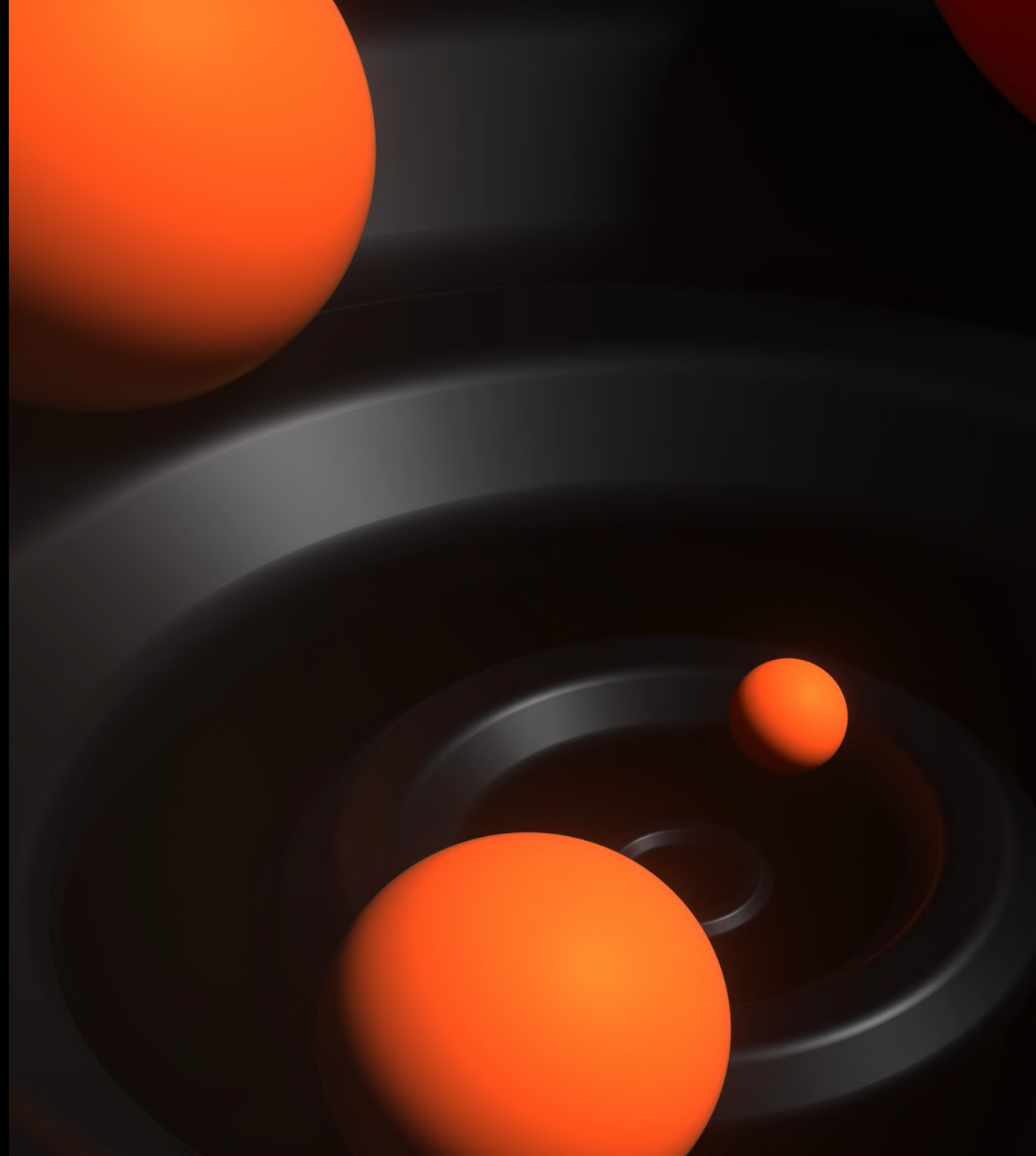
RENOUNCED?

The need to selectively adjust the parameters that influence both fees and the buyback itself means that ownership of the contract cannot be fully renounced. Implementing hardcoded parameters and a fixed, immutable behaviour leaves the protocol vulnerable to malicious attacks. Most importantly, ownership renounce severely hinders the upgradability and thus the longevity of the project.



SAFETY MEASURES

Safety is guaranteed by a limited action model, which disables all malicious actions such as withdrawing funds from the buyback contract, preventing sells or token transfers and excluding addresses from rewards and fees. The limited set of allowed actions are setting buyback parameters (base amount, the minimum sell amount needed to trigger the buyback, the scaling of the buyback with respect to the price impact, enabling/disabling the buyback, and modifying the various fees within their respective limits, as described in the previous section.



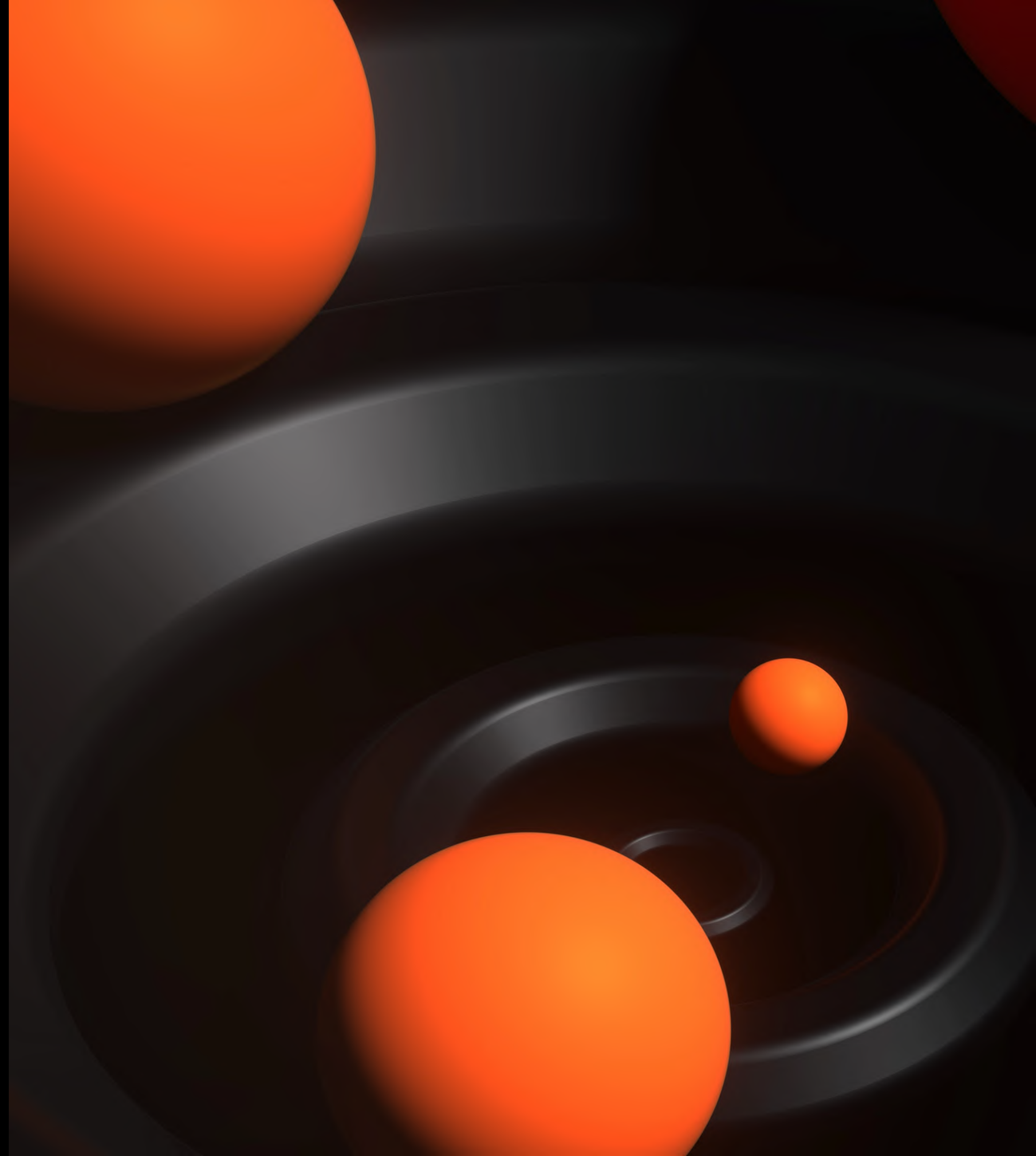
PERMISSIONS

What can the owner do?

- Enable/Disable the buyback
- Set buyback parameters such as the base buyback amount, or the minimum sell amount needed to trigger the buyback
- Modify the base liquidity fee and the redistribution fee up to a certain limit (Redistribution fee + BaseLiquidity fee <= 20)

What can't the owner do?

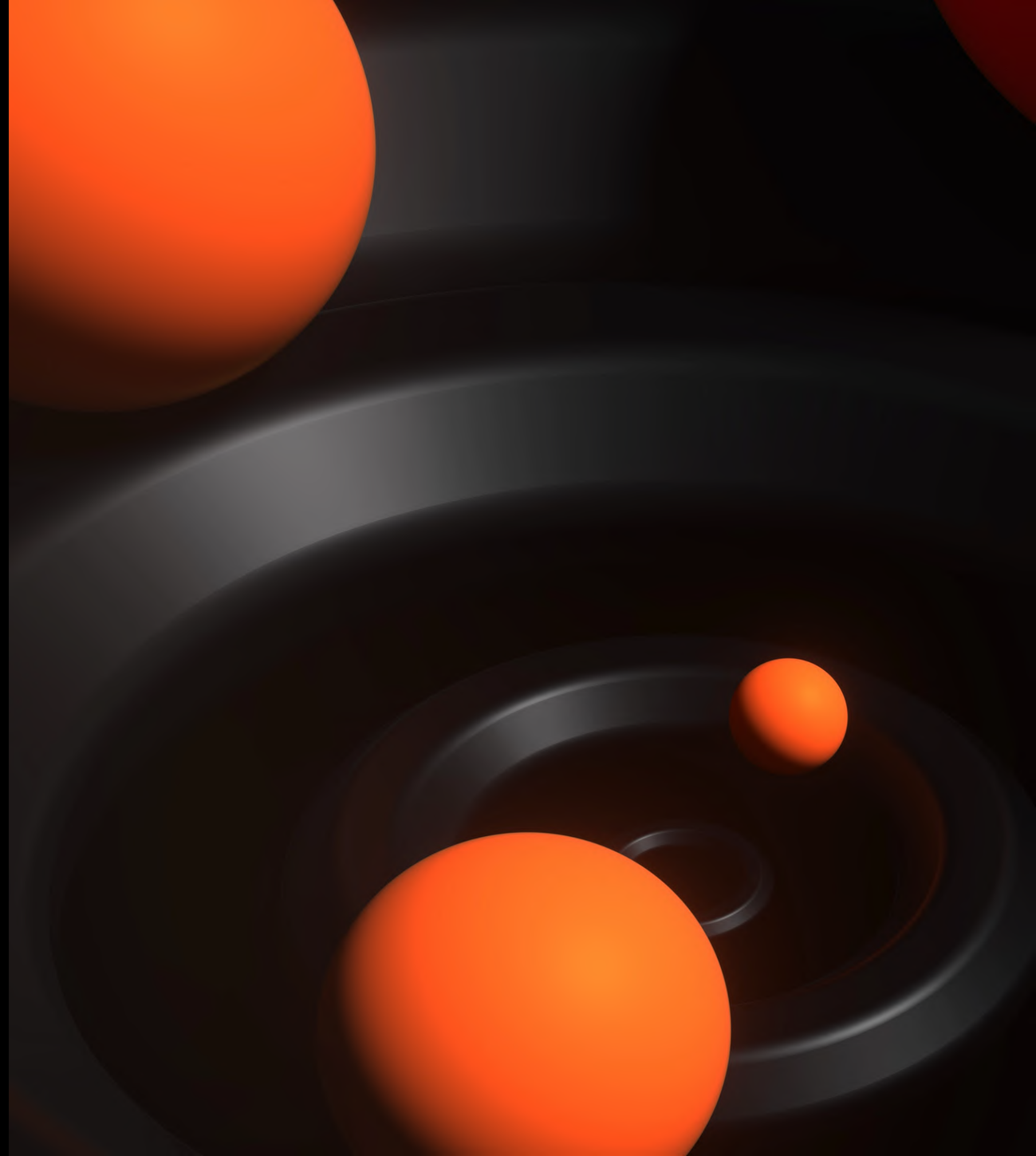
- Withdraw funds from the buyback contract
- Prevent anyone from selling or transferring their tokens
- Exclude addresses from rewards or from fees



DYNAMIC SELL FEE

This settable liquidity tax is static on buys (which can be set to a limited range from 0% to 20%), and dynamic on sells (which has a lower and upper limit of 10% and 40% respectively) where the price impact of the sell determines the fee that is paid within the limit. The fee linearly dependent on the price impact, e.g. given a 10-40% range on the sell tax, a 2.5% price impact sell transaction will incur a 25% fee. The liquidity tax is split half-and-half between the buyback wallet and the development team wallet.

It is this fee structures that allows the buyback contract to be used to maintain healthy growth for the token, enabling the aforementioned buyback functionality



THE INARI METAVERSE

Inari is meant to be a fully working proof of concept for both the dynamic fees and dynamic buybacks. Both systems have been automated to the extent possible, so that their unique properties can be used against malicious actors, while at the same time not compromising the token's safety for its investors.

But we are not stopping there. We are busy building out an entire community-driven ecosystem of events, games and more.