



# Security Assessment

## MetaGold

Feb 14th, 2023



[oceanglobal.network](http://oceanglobal.network)

# Summary

This report has been prepared for MetaGold (MGV) to discover issues and vulnerabilities in the source code of the MetaGold (MGV) project as well as any contract dependencies that were not part of an officially recognized library. A comprehensive examination has been performed, utilizing Static Analysis, Manual Review, and Testnet Deployment techniques.

The auditing process pays special attention to the following considerations:

Testing the smart contracts against both common and uncommon attack vectors.

Assessing the codebase to ensure compliance with current best practices and industry standards.

Ensuring contract logic meets the specifications and intentions of the client.

Cross-referencing contract structure and implementation against similar smart contracts produced by industry leaders.

Thorough line-by-line manual review of the entire codebase by industry experts.

The security assessment resulted in findings that ranged from critical to informational. We recommend addressing these findings to ensure a high level of security standards and industry practices.

We suggest recommendations that could better serve the project from the security perspective:

Enhance general coding practices for better structures of source codes;

Add enough unit tests to cover the possible use cases;

Provide more comments per each function for readability, especially contracts that are verified in public;

Provide more transparency on privileged activities once the protocol is live.

This is a limited report on our findings based on our analysis, in accordance with good industry practice as of the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the disclaimer below - please make sure to read it in full.

# Overview

Ocean Global was commissioned by MetaGold to perform an audit of smart contracts:

**0x0c62647f26026983264BafF48f631D225FbeF871**

This Smart Contract is deployed on , Cronos Chain, Polygon Chain, Fantom Chain, Ethereum Chain and Avalanche C-Chain

**0xE1d51e2aEEDed7655b61337f7BE829cEff6640c8**

This Smart Contract is deployed on BNB Chain

**These two smart contracts are the same but deployed on different chains.**

The purpose of the audit was to achieve the following:

Ensure that the smart contract functions as intended.

Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improving the security posture of the smart contract by remediating the issues that were identified.

# Project Summary

Name	MetaGold
Description	MetaGold is the first Blockchain-based MMORPG in Virtual Reality with Realistic Graphics built on Unreal Engine, created and owned by its users. It is a universal platform that will connect games, decentralized applications, and virtual realities.
Platform	BNB, Cronos, Polygon, Fantom, Ethereum, Avalanche
Language	Solidity
Codebase	<a href="https://github.com/MetaGoldVerse">https://github.com/MetaGoldVerse</a>
Website	<a href="https://metagoldverse.com">https://metagoldverse.com</a>

# Contract Details

## Audit Summary

Delivery Date	Feb 14, 2023
Audit Methodology	Static Analysis, Manual Review, Testnet Deployment
Key Components	MetaGoldVerse.sol

## Vulnerability Summary

Vulnerability Level	Total
Critical	0
Major	0
Medium	0
Minor	0
Informational	0
Discussion	0

## Understandings

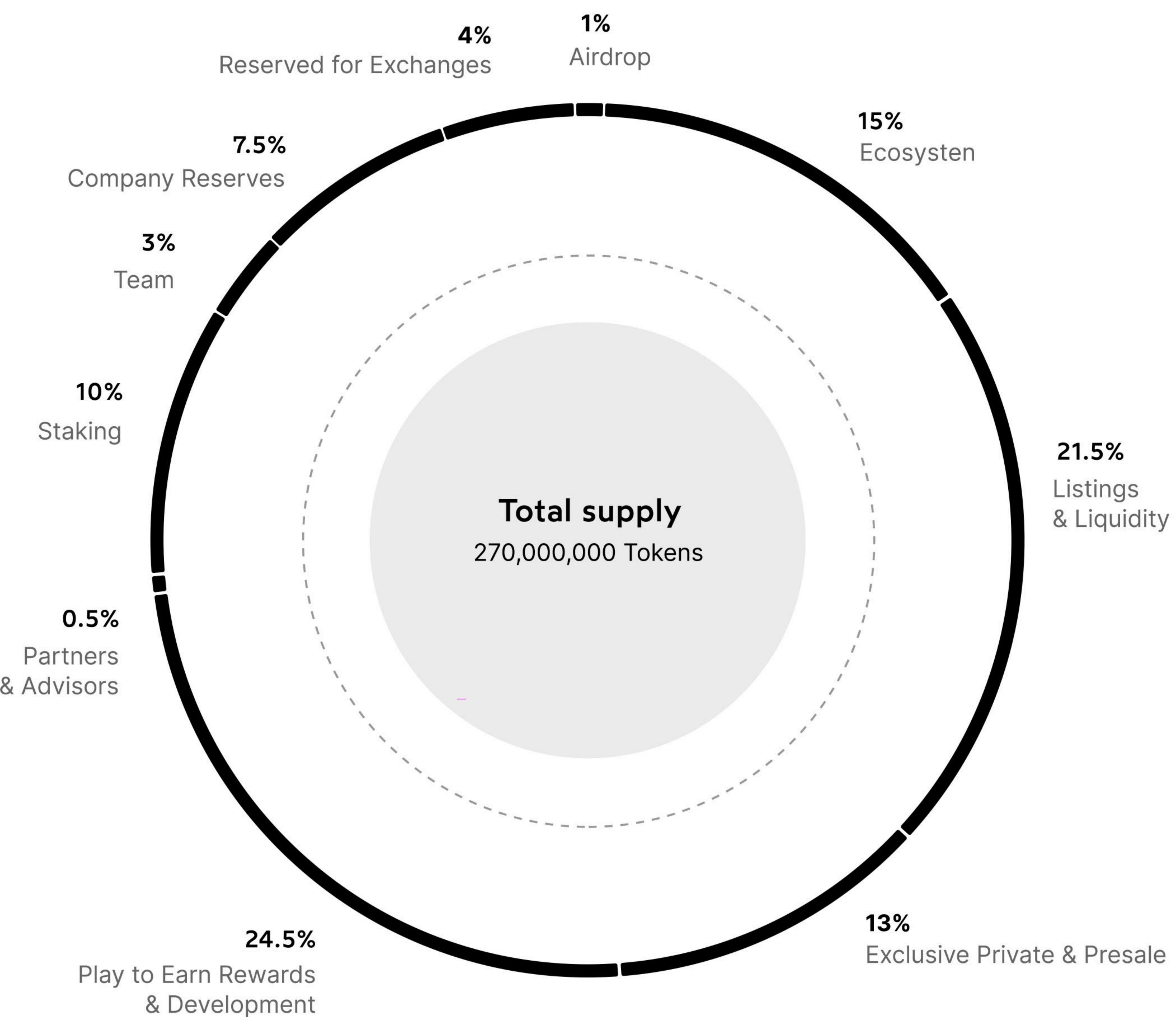
MetaGold is the first Blockchain-based MMORPG in Virtual Reality with Realistic Graphics built on Unreal Engine, created and owned by its users. It is a universal platform with multi-chain compatibility that will connect games, decentralized applications, and virtual realities.

### Introduction (Source: Whitepaper)

\$MGV tokens become the investment tool to purchase virtual land in MetaGold Verse. MetaGold's financial infrastructure will allow for everyone who will be settling Metaverse with us the ability to buy and sell around all things related and needed for settlement.

Investors will be able to buy and sell \$MGV via both Decentralized and Centralized exchanges. All \$MGV from initial real estate purchases will be publicly burnt decreasing the overall supply of the token. \$MGV will also be required to purchase items from within MetaGold Marketplace for example; upgrading real estate space or purchasing items from within the marketplace. This is what makes \$MGV valuable and necessary for the ecosystem to operate.

For more information please visit the official website of MetaGold  
<https://metagoldverse.com/>

**Tokenomics** (Source: Website)

Token vesting details are available on the official website:  
<https://metagoldverse.com/>

## Privileged Functions

The contract contains no privileged functions that are restricted by the `onlyOwner` modifier. There are no functions used to modify the contract configurations and address attributes.

## Contract Ownership is Renounced

## Source Code (Verified on all chains)

Transactions BEP-20 Token Txns Contract ✓ Events Analytics Comments

Code Read Contract Write Contract

✓ Contract Source Code Verified (Exact Match) !

Contract Name:	MetaGoldVerse	Optimization Enabled:	No with 200 runs
Compiler Version	v0.5.16+commit.9c3226ce	Other Settings:	default evmVersion, MIT license

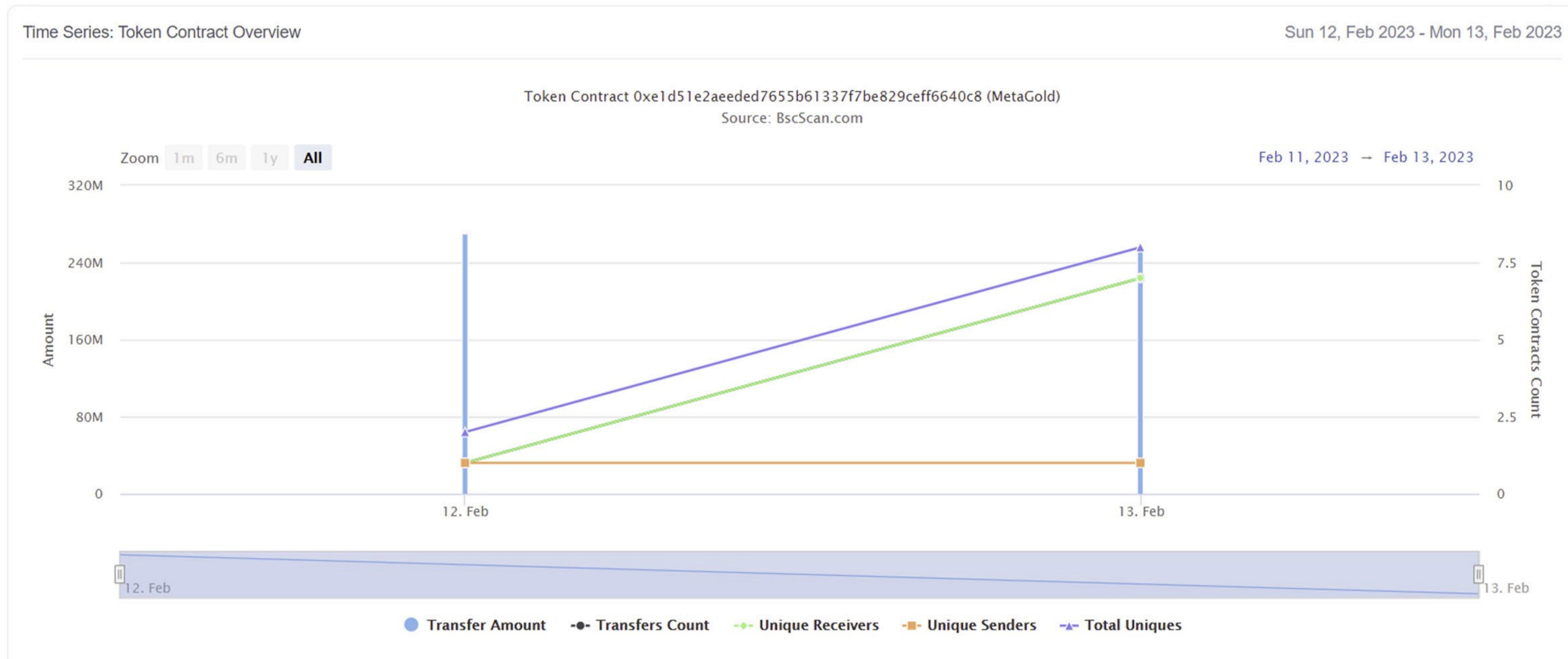
✓ Contract Source Code (Solidity)

```

1 /**
2  *Submitted for verification at BscScan.com on 2023-02-13
3 */
4
5 // SPDX-License-Identifier: MIT
6
7 pragma solidity >=0.3.0 <0.8.17;
8
9 interface IBEP20 {
10 /**
11  * @dev Returns the amount of tokens in existence.
12  */
13 function totalSupply() external view returns (uint256);
14
15 /**
16  * @dev Returns the token decimals.
17  */
18 function decimals() external view returns (uint8);
19
20 /**
21  * @dev Returns the token symbol.
22  */
23 function symbol() external view returns (string memory);
24
25 /**

```

## Contract Interaction (BNB Chain Only)



**Website Test (SSL Secured)** [www.metagoldverse.com](https://metagoldverse.com)



MetaGold • The Digital Frontier's [+ https://metagoldverse.com](https://metagoldverse.com) Guest Update

M E T A G O L D

Project Whitepaper Docs Presale Partner with us Upcoming More Explorers

M E T A G O L D META GOLD META GOLDVERSE.COM

CoinMarketCap Cryptocurrency Market Capitalisations

BNB CHAIN BEYOND BINANCE

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UNREAL ENGINE

# The Ultimate Virtual Reality Hyper-Realistic

## #Metaverse

MetaGold is the first Blockchain-based MMORPG in Virtual Reality with Realistic Graphics built on Unreal Engine, created and owned by its users. It is a universal platform that will connect games, decentralized applications, and virtual realities.

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## Contract Function Details

+ interface IBEP20 #

```
function totalSupply external
function decimals external
function symbol external
function name external
function getOwner external
function balanceOf external
function transfer external #
function allowance external
function approve external #
function transferFrom external #
```

+ contract Context

```
constructor internal
function _msgSender internal
function _msgData internal
```

+ library SafeMath

```
function add internal
function sub internal
function mul internal
function div internal
function mod internal
```

+ contract Ownable is Context #

```
constructor internal
function owner public
+ modifier onlyOwner
function renounceOwnership public #
function transferOwnership public #
function _transferOwnership internal
```

## Contract Function Details

+ contract MetaGoldVerse is Context, IBEP20, Ownable #

```
constructor() public
function external payable
function name external
function symbol external
function decimals external
function totalSupply external
function getOwner external
function balanceOf external
function transfer external #
function allowance external
function approve external #
function transferFrom external #
function increaseAllowance public
function decreaseAllowance public
function _transfer internal
function _approve internal
```

## Issues Checking System

Issue Description	Checking Status
Compiler errors	Passed (v0.5.17+commit.d19bba13)
Race conditions and Reentrancy	Passed
Possible delays in data delivery	Passed
Oracle calls	Passed
Timestamp dependence	Passed
Integer Overflow and Underflow	Passed
DoS with Revert	Passed
DoS with block gas limit	Passed
Methods execution permissions	Passed
Economy model of the contract	Passed
The impact of the exchange rate on the logic	Passed
Malicious Event log	Passed
Scoping and Declaration	Passed
Uninitialized storage pointers	Passed
Arithmetic accuracy	Passed
Design Logic	Passed

# Contract Security

 - Scanned on gopluslabs.io

## Contract source code verified

This token contract is open source. You can check the contract code for details. Unsourced token contracts are likely to have malicious functions to defraud their users of their assets.

## No proxy

There is no proxy in the contract. The proxy contract means contract owner can modify the function of the token and possibly effect the price.

## No mint function

Mint function is transparent or non-existent. Hidden mint functions may increase the amount of tokens in circulation and effect the price of the token.

## No function found that retrieves ownership

If this function exists, it is possible for the project owner to regain ownership even after relinquishing it

## Owner can't change balance

The contract owner is not found to have the authority to modify the balance of tokens at other addresses.

## No hidden owner

No hidden owner address was found for the token. For contract with a hidden owner, developer can still manipulate the contract even if the ownership has been abandoned.

## This token can not self destruct

No self-destruct function found. If this function exists and is triggered, the contract will be destroyed, all functions will be unavailable, and all related assets will be erased.

## No external call risk found

External calls would cause this token contract to be highly dependent on other contracts, which may be a potential risk.

## No Honeypot Risk

This does not appear to be a honeypot.

# Contract Security - Scanned on gopluslabs.io

## **No codes found to suspend trading.**

If a suspendable code is included, the token maybe neither be bought nor sold (honeypot risk).

## **No trading cooldown function**

The token contract has no trading cooldown function. If there is a trading cooldown function, the user will not be able to sell the token within a certain time or block after buying.

## **No anti\_whale(Unlimited number of transactions)**

There is no limit to the number of token transactions. The number of scam token transactions may be limited (honeypot risk).

## **Tax cannot be modified**

The contract owner not contain the authority to modify the transaction tax. If the transaction tax is increased to more than 49%, the tokens will not be able to be traded (honeypot risk).

## **No blacklist**

The blacklist function is not included. If there is a blacklist, some addresses may not be able to trade normally (honeypot risk).

## **No whitelist**

The whitelist function is not included. If there is a whitelist, some addresses may not be able to trade normally (honeypot risk).

## **Tax changes not found for personal addresses**

Tax changes were not found for every assigned address. If it exists, the contract owner may set a very outrageous tax rate for assigned address to block it from trading.

## Owner privileges

- Smart Contract ownership has renounced, there are no functions which can be modified by the deployer.

## Security Issues

### ✓ High Severity Issues

No high severity issues were found.

### ✓ Medium Severity Issues

No medium severity issues were found.

### ✓ Low Severity Issues

No low severity issues were found.

## Conclusion

- ✓ Smart contracts contain no issues!

**DEX Liquidity Locking Details (BNB Chain Only):**

- ✓ PancakeSwap LP Tokens will be locked on Ocean Global Locker (10 Years).

Check Locked Tokens here:

<https://oceanglobal.network/locker-view?address=0xe1d51e2aeed7655b61337f7be829ceff6640c8>

### Ocean Global Note:

Please check the disclaimer above and note. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.

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The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

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