

**Building the Futuristic Blockchain Ecosystem** 

# SECURITY AUDIT REPORT

wNexus



## **TOKEN OVERVIEW**

#### **Risk Findings**

Severity	Found	
High	1	
Medium	0	
Low	0	
Informational	0	

#### **Centralization Risks**

Owner Privileges	Description
Can Owner Set Taxes >25% ?	Not Detected
Owner needs to enable trading?	Yes, owner needs to enable trades
Can Owner Disable Trades ?	Not Detected
Can Owner Mint ?	Not Detected
Can Owner Blacklist ?	Not Detected
Can Owner set Max Wallet amount?	Not Detected
Can Owner Set Max TX amount?	Not Detected



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# **OVERVIEW**

The Expelee team has performed a line-by-line manual analysis and automated review of the smart contract. The smart contract was analysed mainly for common smart contract vulnerabilities, exploits, and manipulation hacks. According to the smart contract audit:

Audit Result	Passed With High Risk
KYC Verification	-
Audit Date	21 August 2023



# **CONTRACT DETAILS**

**Token Address:** 

0xe5C2F5FDF935e44F0C47CF9c248c31C73D690369

Name: Nexus Chain

Symbol: wNexus

Decimals: 18

**Network: Ethereum** 

**Token Type: ERC20** 

Owner: 0x656CDD46e3dc2A3728491b143b8E8E91c780DAC5

**Deployer:** 

0x656CDD46e3dc2A3728491b143b8E8E91c780DAC5

Token Supply: 150,000,000

**Checksum:** 

cb2134035a08d9a9f0030b2f1bc77b3adcf0973d

**Testnet version:** 

The tests conducted were performed on the contract deployed on the Binance Smart Chain (BSC) Testnet. https://testnet.bscscan.com/token/0xb12a657AD96Cc561904468E7aF20914a4C712BB4



# AUDIT METHODOLOGY

#### **Audit Details**

Our comprehensive audit report provides a full overview of the audited system's architecture, smart contract codebase, and details on any vulnerabilities found within the system.

#### **Audit Goals**

The audit goal is to ensure that the project is built to protect investors and users, preventing potentially catastrophic vulnerabilities after launch, that lead to scams and rugpulls.

#### **Code Quality**

Our analysis includes both automatic tests and manual code analysis for the following aspects:

- Exploits
- Back-doors
- Vulnerability
- Accuracy
- Readability

#### **Tools**

- DE
- Open Zeppelin
- Code Analyzer
- Solidity Code
- Compiler
- Hardhat



# VULNERABILITY CHECKS

Design Logic	Passed
Compiler warnings	Passed
Private user data leaks	Passed
Timestamps dependence	Passed
Integer overflow and underflow	Passed
Race conditions & reentrancy. Cross-function race conditions	Passed
Possible delays in data delivery	Passed
Oracle calls	Passed
Front Running	Passed
DoS with Revert	Passed
DoS with block gas limit	Passed
Methods execution permissions	Passed
Economy model	Passed
Impact of the exchange rate on the logic	Passed
Malicious event log	Passed
Scoping and declarations	Passed
Uninitialized storage pointers	Passed
Arithmetic accuracy	Passed
Cross-function race conditions	Passed
Safe Zepplin module	Passed



# RISK CLASSIFICATION

When performing smart contract audits, our specialists look for known vulnerabilities as well as logical and acces control issues within the code. The exploitation of these issues by malicious actors may cause serious financial damage to projects that failed to get an audit in time. We categorize these vulnerabilities by the following levels:

#### **High Risk**

Issues on this level are critical to the smart contract's performance/functionality and should be fixed before moving to a live environment.

#### **Medium Risk**

Issues on this level are critical to the smart contract's performance/functionality and should be fixed before moving to a live environment.

#### **Low Risk**

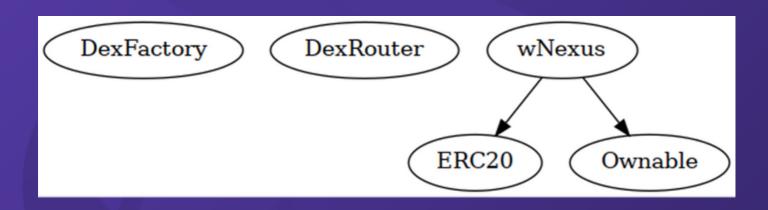
Issues on this level are minor details and warning that can remain unfixed.

#### **Informational**

Issues on this level are minor details and warning that can remain unfixed.



# **INHERITANCE TREES**





## **FUNCTION DETAILS**

```
|Contract |
            Type
                   |Bases |
| **Function Name** | **Visibility** | **Mutability** | **Modifiers** |
| **DexFactory** | Interface | | | |
 └ | createPair | External ! | ● |NO! |
111111
| **DexRouter** | Interface | | | |
 └ | factory | External ! | |NO! |
 └ | addLiquidityETH | External ! | 💵 | NO ! |
 └ | swapExactTokensForETHSupportingFeeOnTransferTokens | External ! | ● | NO ! |
|||||||
 **wNexus** | Implementation | ERC20, Ownable | | |
 └ | Constructor | Public ! | ● | ERC20 |
  └ | enableTrading | External ! | ● | onlyOwner |
 └ | setMarketingWallet | External ! | ● | onlyOwner |
 └ | setBuyFees | External ! | ● | onlyOwner |
 └ | setSellFees | External ! | ● | onlyOwner |
 └ | setSwapTokensAtAmount | External ! | ● | onlyOwner |
 └ | toggleSwapping | External ! | ● | onlyOwner |
 └ | setWhitelistStatus | External ! | ● | onlyOwner |
 └ | _takeTax | Internal 🔒 | ● | |
 💄 📗 transfer | Internal 🔒 | 🛑 | |
 🕒 | manageTaxes | Internal 🤒 | 🛑 | |
 └ | swapToETH | Internal 🦲 | 🌑 | |
 └ | withdrawStuckETH | External ! | ● | onlyOwner |
 └ | withdrawStuckTokens | External ! | ● | onlyOwner |
  └ | •Receive Ether• | External ! | ! | NO! |
### Legend
|Symbol | Meaning |
|:-----|
     | Function can modify state |
 | Function is payable |
```



# **TESTNET VERSION**

Adding Liquidity <a href="#"> Tx:</a>
https://testnet.bscscan.com/tx/0xe0a7d5fd13b54866af9f934b39ccf6cc0d9363cfd1380edda86426af50b31e03
Buying when excluded from fees <a href="#">Tx (0% tax):</a>
https://testnet.bscscan.com/tx/0xe5ca95ce4fe223c164f6d2209171ea31e6864d88bd 82becf4ca49c517ab02ff4
Selling when excluded from fees ✓ Tx (0% tax):
https://testnet.bscscan.com/tx/0x5fa429daab3e3ea6ac4335b8b8fc3a72e85cce7b9351bfe6f71694f78a275f1f
Transferring when excluded from fees ✓ Tx (0% tax):
https://testnet.bscscan.com/tx/0x88c6bc71e0518a5c5a4e0e9fca33203f5464edb5325f42ff416cb21e543fe5ed
Buying ✓
Tx (0-10% tax): https://testnet.bscscan.com/tx/0xa60b6af7daeb1693aea52bf7908a1f1f45b5f168a903
4a500e8081604fb6a880



### TECTNET VEDCION

	VLKO	
Selling ✓ Ty (0-10% tay):		

Transferring <a>V</a>

3cd9afd2f1cc18f1e0c5

Tx (0% tax):

https://testnet.bscscan.com/tx/0xc4f92125fa0153418bd5b674f49b9bbc0cfb294f5e7 3d54095c9737379afa364

https://testnet.bscscan.com/tx/0xfe7e8d156eab70a9cbda4d41b1f8a910111a4c25163e

Internal swap (ETH sent to marketing)

https://testnet.bscscan.com/tx/0xfe7e8d156eab70a9cbda4d41b1f8a910111a4c25163e 3cd9afd2f1cc18f1e0c5



### **MANUAL REVIEW**

#### **Severity Criteria**

Expelee assesses the severity of disclosed vulnerabilities according to methodology based on OWASP standarts.

Vulnerabilities are dividend into three primary risk categroies:

High

Medium

Low

High-level considerations for vulnerabilities span the following key areas when conducting assessments:

- Malicious input handling
- Escalation of privileges
- Arithmetic
- Gas use

Overall Risk Severity				
Impact	HIGH	Medium	High	Critical
	MEDIUM	Low	Medium	High
	LOW	Note	Low	Medium
		LOW	MEDIUM	HIGH
	Likelihood			



### **HIGH RISK FINDING**

**Category: Centralization** 

Subject: Trades are disabled by default

**Status: Open** 

**Impact: High** 

#### **Overview:**

The contract has been structured such that all trading is disabled by default, necessitating the contract owner's manual intervention to enable trading. This can lead to a situation where, if trades remain disabled, token holders won't be able to buy, sell, or trade their tokens, causing a severe impact on the token's usability and market liquidity.

```
function enableTrading(address _pairAddress) external onlyOwner {
   pairAddress = _pairAddress;
   tradingStatus = true;
}
```

#### **Suggestion:**

To mitigate this risk, it is recommended that trading be enabled before the token presale. This can be achieved by invoking the "enableTrading" function or by transferring ownership of the contract to a third-party that has established trust with the community, such as a Certified SAFU developer. This reduces the concentration of power and the potential for malicious actions, thereby promoting a more decentralized and fair environment for all participants.



### **ABOUT EXPELEE**

Expelee is a product-based aspirational Web3 start-up.
Coping up with numerous solutions for blockchain security and constructing a Web3 ecosystem from deal making platform to developer hosting open platform, while also developing our own commercial and sustainable blockchain.

### www.expelee.com

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