



Smart Contract Security Audit Report

Heroseri

April 2022

Security Status



www.hacksafe.io



Audit Details



Audited project

Heroseri



Deployer address

0xC320a20584366eb720cD74F1250da35e9DbAe7Bd



Client contacts

Heroseri team



Blockchain

Binance Smart Chain



Website

<https://heroseri.io/>

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at 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 below disclaimer below – please make sure to read it in full.

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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.

Background

HeckSafe was commissioned by Heroseri to perform an audit of smart contracts:

- <https://bscscan.com/address/0xf9c6c2889903010145fe1785b4de918354946e31#code>

Contract Details

Token contract details for 21.04.2022

Contract name	: HSIToken
Contract address	: 0xf9C6c2889903010145FE1785b4dE918354946E31
Total supply	: 1 billion
Token Ticker	: HSI
Decimals	: 18
Token Holders	: 1
Transactions count	: 1
Contract deployer address	: 0xC320a20584366eb720cD74F1250da35e9DbāE7Bd
Owner address	: 0xC320a20584366eb720cD74F1250da35e9DbāE7Bd

Contract functions details

+ Context

- [Int] _msgSender
- [Int] _msgData

+ Pausable (Context)

- <constructor > #
- [Pub] paused #
- [Int] _pause #
 - modifier: whenNotPaused
- [Int] _unpause #
 - modifier: whenPaused

+Ownable (Context)

- <constructor > #
- [Pub] owner
- [Pub] renounceOwnership #
 - modifier: onlyOwner
- [Pub] transferOwnership #
 - modifiers: onlyOwner
- [Int] _transferOwnership #

+ [Int] IBEP20

- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] transfer #
- [Ext] allowance
- [Ext] approve #
- [Ext] transferFrom #

+ [Int] IBEP20Metadata (IBEP20)

- [Ext] name
- [Ext] symbol
- [Ext] decimals

Contract functions details

+ BEP20 (Context, IBEP20, IBEP20Metadata)

- <constructor> #
- [Pub] name
- [Pub] symbol
- [Pub] decimals
- [Pub] totalSupply
- [Pub] balanceOf
- [Pub] transfer #
- [Pub] allowance
- [Pub] approve #
- [Pub] transferFrom #
- [Pub] increaseAllowance #
- [Pub] decreaseAllowance #
- [Int] _transfer #
- [Int] _mint #
- [Int] _burn #
- [Int] _approve #
- [Int] _beforeTokenTransfer
- [Int] _afterTokenTransfer

+ BEP20Burnable (Context, BEP20)

- [Pub] burn #
- [Pub] burnFrom #

+ HSIToken (BEP20, BEP20Burnable, Ownable, Pausable)

- <constructor> #
- [Pub] pause #
 - modifiers: onlyOwner
- [Pub] unpause #
 - modifiers: onlyOwner

Issues Checking Status

No.	Title	Status
1.	Unlocked Compiler Version	Low issue
2.	Missing Input Validation	Passed
3.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
4.	Possible delays in data delivery	Passed
5.	Oracle calls.	Passed
6.	Timestamp dependence.	Passed
7.	Integer Overflow and Underflow	Passed
8.	DoS with Revert.	Passed
9.	DoS with block gas limit.	Passed
10.	Methods execution permissions.	Passed
11.	Economy model of the contract.	Passed
12.	Private use data leaks.	Passed
13.	Malicious Event log.	Passed
14.	Scoping and Declarations.	Low issue
15.	Uninitialized storage pointers.	Passed
16.	Arithmetic accuracy.	Passed
17.	Design Logic.	Passed
18.	Safe Open Zeppelin contracts implementation and usage.	Passed
19.	Incorrect Naming State Variable	Passed

Severity Definitions

Risk Level	Description
Critical	Critical vulnerabilities are usually straightforward to exploit and can lead to assets loss or data manipulations.
High	High-level vulnerabilities are difficult to exploit; however, they also have a significant impact on smart contract execution, e.g., public access to crucial functions
Medium	Medium-level vulnerabilities are important to fix; however, they can't lead to assets loss or data manipulations.
Low	Low-level vulnerabilities are mostly related to outdated, unused, etc. code snippets that can't have a significant impact on execution.

Security Issues

✔ Critical Severity Issues

No critical severity issue found.

✔ High Severity Issues

No high severity issue found.

✔ Medium Severity Issues

No medium severity issues found.

✔ Low Severity Issues

Two low severity issues found.

1. Unlocked Compiler Version.

- **Description**

The contract utilizes an unlocked compiler version. An unlocked compiler version in the contract's source code permits the user to compile it at or above a particular version. This, in turn, leads to differences in the generated bytecode between compilations due to differing compiler version numbers. This can lead to ambiguity when debugging as compiler-specific bugs may occur in the codebase that would be difficult to identify over a span of multiple compiler versions rather than a specific one.

- **Recommendation**

possible so that the colt is advisable that the compiler version is alternatively locked at the lowest version ntract can be compiled. For example, for version ^0.8.0 the contract should contain the following line:

```
pragma solidity 0.8.0;
```

2. Scoping and Declarations.

Unused function.

- **Description**

The _msgData functions do nothing.

- **Location**

_msgData functions

- **Recommendation**

We advise to remove unused code which can help you to develop clean coding style and save some computational gas too.

Owner Privileges

Owner Privileges (in the period when the owner is not renounced) :

- Heroseri Contract:
 - Owner can transfer ownership.
 - Owner can renounce ownership.
 - Owner can pause and unpause transferring tokens.

Conclusion

Smart contract contains low severity issues! The further transfer and operations with the fund raised are not related to this particular contract.

HackSafe note: Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.