



# Smart Contract Security Audit Report

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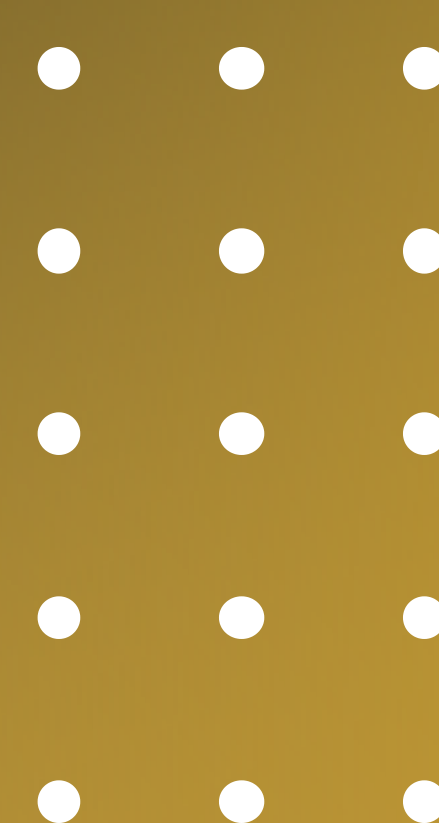
## ARRANO

August 2022

Security Status



[www.hacksafe.io](https://www.hacksafe.io)



# Audit Details



## Audited project

ARRANO



## Deployer address

0xEEAfcf692328337390399BedC39EB1292640591D



## Client contacts

ARRANO Team



## Blockchain

Binance Smart chain



## Website

<https://arrano.network/>



# 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.



# Procedure

## **Step 1 - In-Depth Manual Review**

Manual line-by-line code reviews to ensure the logic behind each function is sound and safe from various attack vectors. This is the most important and lengthy portion of the audit process (as automated tools often cannot find the nuances that lead to exploits such as flash loan attacks).

## **Step 2 - Automated Testing**

Simulation of a variety of interactions with your Smart Contract on a test blockchain leveraging a combination of automated test tools and manual testing to determine if any security vulnerabilities exist.

## **Step 3 – Leadership Review**

The engineers assigned to the audit will schedule meetings with our leadership team to review the contracts, any comments or findings, and ask questions to further apply adversarial thinking to discuss less common attack vectors.

## **Step 4 - Resolution of Issues**

Consulting with the team to provide our recommendations to ensure the code's security and optimize its gas efficiency, if possible. We assist project team's in resolving any outstanding issues or implementing our recommendations.

## **Step 5 - Published Audit Report**

Boiling down results and findings into an easy-to-read report tailored to the project. Our audit reports highlight resolved issues and any risks that exist to the project or its users, along with any remaining suggested remediation measures. Diagrams are included at the end of each report to help users understand the interactions which occur within the project.

# Background

**HackSafe was commissioned by ARRANO to perform an audit of smart contracts:**

- <https://bscscan.com/address/0xb63a911ae7dc40510e7bb552b7fcb94c198bbe2d#code>

**The purpose of the audit was to achieve the**

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

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

# Contract Details

## Token contract details for 26.08.2022

Token Type	: BEP20
Contract name	: BEP20Token
Contract address	: 0xb63A911AE7Dc40510E7Bb552b7Fcb94c198bBE2D
Compiler version	: v0.5.16+commit.9c3226ce
Total supply	: 81,800
Token Ticker	: ANDX
Decimals	: 5
Token Holders	: 2,748
Transactions count	: 27,148
Contract deployer address	: 0xEEAfcf692328337390399BedC39EB1292640591D
Owner address	: 0xeeaefcf692328337390399bedc39eb1292640591d

# Social profiles

Twitter profile : <https://twitter.com/arranonetwork>

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Telegram Profile : <https://t.me/arranonetwork>

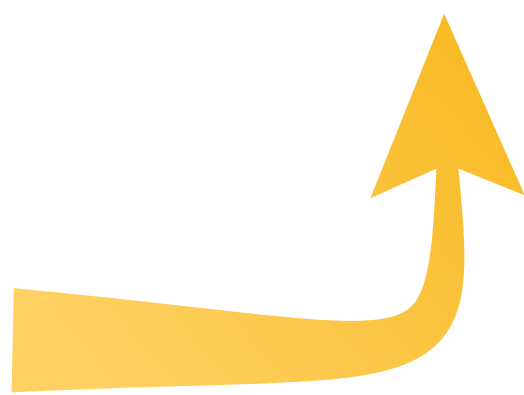


# Audit Summary

According to the standard audit assessment, Customer`s solidity smart contracts are “Secure”. This token contract does contain owner control, which do not make it fully decentralized as owner does have control over smart contract.

Insecure	Poor secured	Secure	Well-secured
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We used various tools like Slither, Mythril and Remix IDE. At the same time this finding is based on critical analysis of the manual audit. All issues found during automated analysis were manually reviewed and applicable vulnerabilities are presented in the issues checking status.

We found 0 critical, 0 high, 0 medium and 1 low and some very low-level issues. These issues are not critical ones.



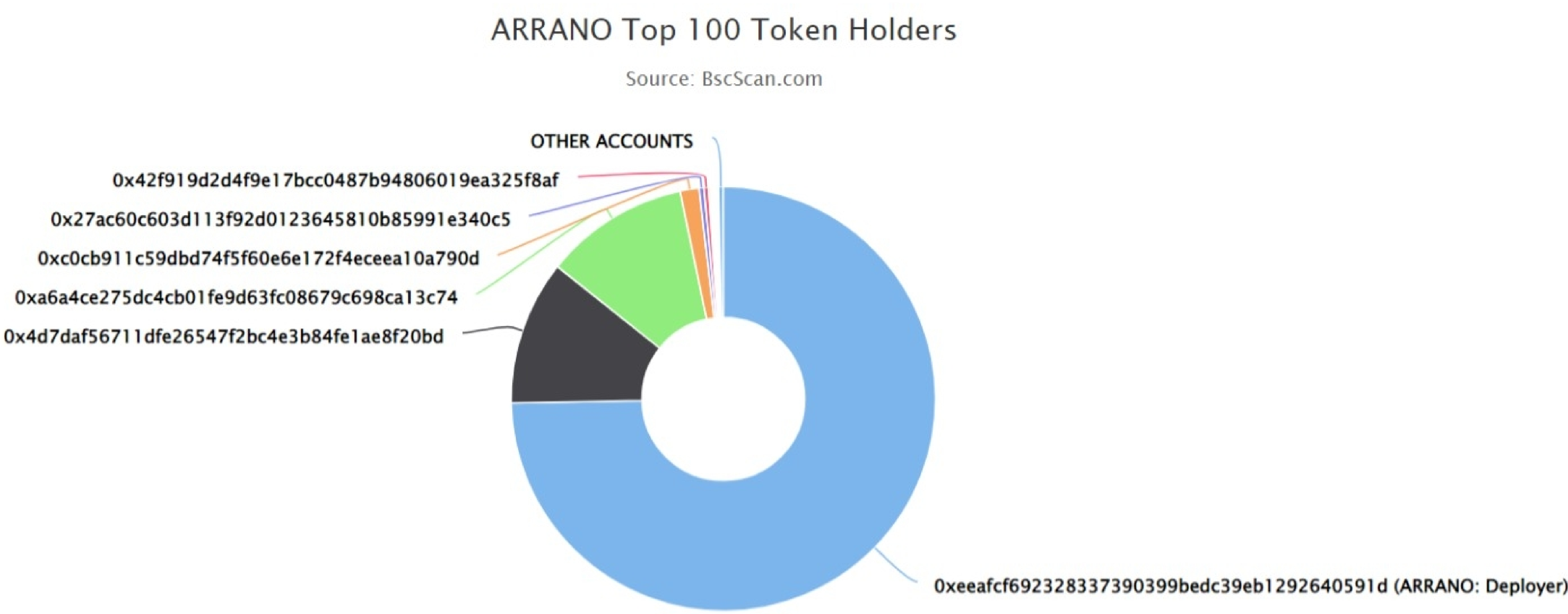
# ARRANO Token Distribution

 The top 100 holders collectively own 99.64% (81,508.64 Tokens) of ARRANO

 Token Total Supply: 81,800.00 Token


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Total Token Holders: 2,748



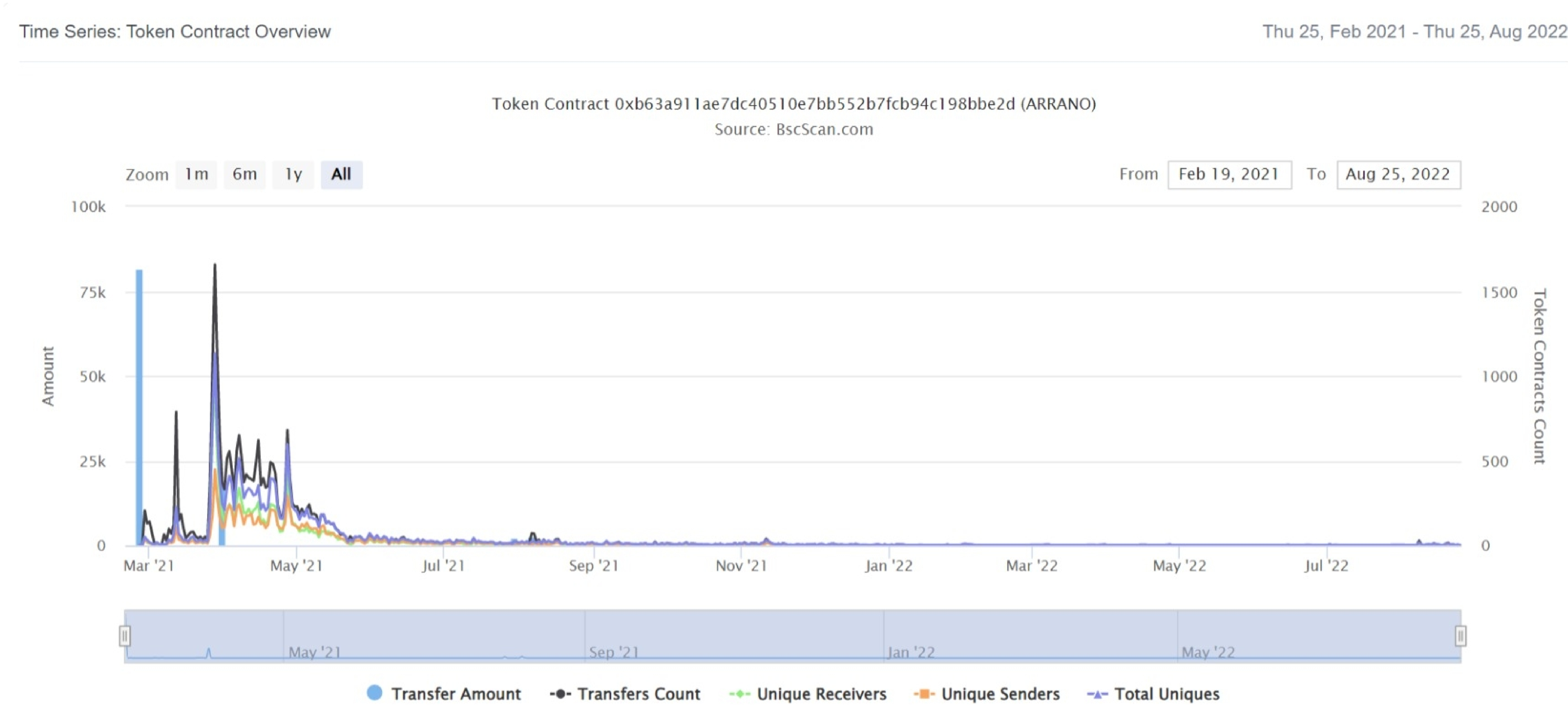
## ARRANO Top 20 Token Holders

(A total of 81,508.64 tokens held by the top 100 accounts from the total supply of 81,800.00 token)

Rank	Address	Quantity (Token)	Percentage
1	ARRANO: Deployer	61,106.39123	74.7022%
2	0x4d7daf56711dfe26547f2bc4e3b84fe1ae8f20bd	9,009	11.0134%
3	0xa6a4ce275dc4cb01fe9d63fc08679c698ca13c74	9,009	11.0134%
4	0xc0cb911c59dbd74f5f60e6e172f4ecee10a790d	1,190.08	1.4549%
5	0x27ac60c603d113f92d0123645810b85991e340c5	300.34017	0.3672%
6	0x42f919d2d4f9e17bcc0487b94806019ea325f8af	264.85944	0.3238%
7	0x21664d33d86e07a30112946991979c47ada0cf75	135.46	0.1656%
8	 PancakeSwap V2: ANDX	47.16628	0.0577%
9	0xc17f1135481303d04a0255bbf6064b018c759786	45.159	0.0552%
10	0xfdc4c63f2b1fead9a88ae2933062e37957ae894d	44	0.0538%
11	0xe4a6233712c562852cfff200b161afdf28f501d4	32.047	0.0392%
12	0x127b679c0b0292d19f2938653edaf46dc5588dcd	31	0.0379%
13	0x6c559ccfe1ed3fbce32fd1a25a116009c0879412	20.03084	0.0245%
14	0x17413ee15154ecb49e7b17ddff80a3e81dad5151	19.5	0.0238%
15	0xe4b33986634eb5d679433cbfa1671e968bf05a0d	19.461	0.0238%
16	0x514adc61773f9aa8f72aced70e8229b35256d558	14.04174	0.0172%
17	0x467ff5c573bde61d528d2690c3a7b6d5b7bc9261	12	0.0147%
18	0x029dc39b6649a7a2038496dae66cc9ad7cb2ab3d	10.4	0.0127%
19	0x1d9bb1ae8f6a4d9bd478eca69c0e449a8d5e67e0	10	0.0122%
20	0x4ef460c319512ecedc92b141dc93be1a7ccf7ef7	10	0.0122%

# ARRANO Token Distribution

## ARRANO Contract Overview





# Contract functions details

## + [Int] IBEP20

- [Ext] totalSupply
- [Ext] decimals
- [Ext] symbol
- [Ext] name
- [Ext] getOwner
- [Ext] balanceOf
- [Ext] transfer
- [Ext] allowance
- [Ext] approve
- [Ext] transferFrom

## + Context

- [Int] <constructor>
- [Int] \_msgSender
- [Int] \_msgData

## + [Lib] SafeMath

- [Int] add
- [Int] sub
- [Int] sub
- [Int] mul
- [Int] div
- [Int] div
- [Int] mod
- [Int] mod

## + Ownable (Context)

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

## +BEP20 (Context, IBEP20, Ownable)

- [Pub] <constructor>
- [Ext] getOwner
- [Pub] decimals
- [Pub] symbol

# Contract functions details

- [Pub] name
- [Pub] totalSupply
- [Pub] balanceOf
- [Pub] transfer #
- [Pub] allowance
- [Pub] approve #
- [Pub] transferFrom #
- [Pub] increaseAllowance
- [Pub] decreaseAllowance
- [Pub] mint #
  - modifiers: onlyOwner
- [Int] \_transfer #
- [Int] \_mint#
- [Int] \_burn #
- [Int] \_approve #
- [Int] \_burnFrom #

(\$ ) = payable function

# = non-constant function



# Issues Checking Status

No.	Title	Status
1.	Unlocked Compiler Version	Passed
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.	Passed
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
20.	Too old version	Low issue

# 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

One low severity issue found.

### 1. Old compiler version

- **Description**

Contract has been deployed using too old solidity version.

- **Recommendation**

It is advisable to deploy contract using any of the latest version of solidity.

# Centralization

## Owner privileges:

- ARRANO Contract:
  - Owner can remove and transfer ownership.
  - Owner can mint.

This smart contract has some functions which can be executed by the Admin (Owner) only. If the admin wallet private key would be compromised, then it would create trouble but smart contract ownership has been renounced. Following are Admin functions and burner functions:

- Transferownership
- Renounceownership
- Mint



# 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.