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AUDIT COMPANY

Smart Contract Security Audit

TechRate

October, 2021

Audit Details

Audited project

Electrinity

Deployer address

0x2B5BC43a1A874B4c6698F1C96E1b5279C37D2502

Client contacts:

Electrinity team

Blockchain

Binance Smart Chain

Project website:

https://electrinity.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

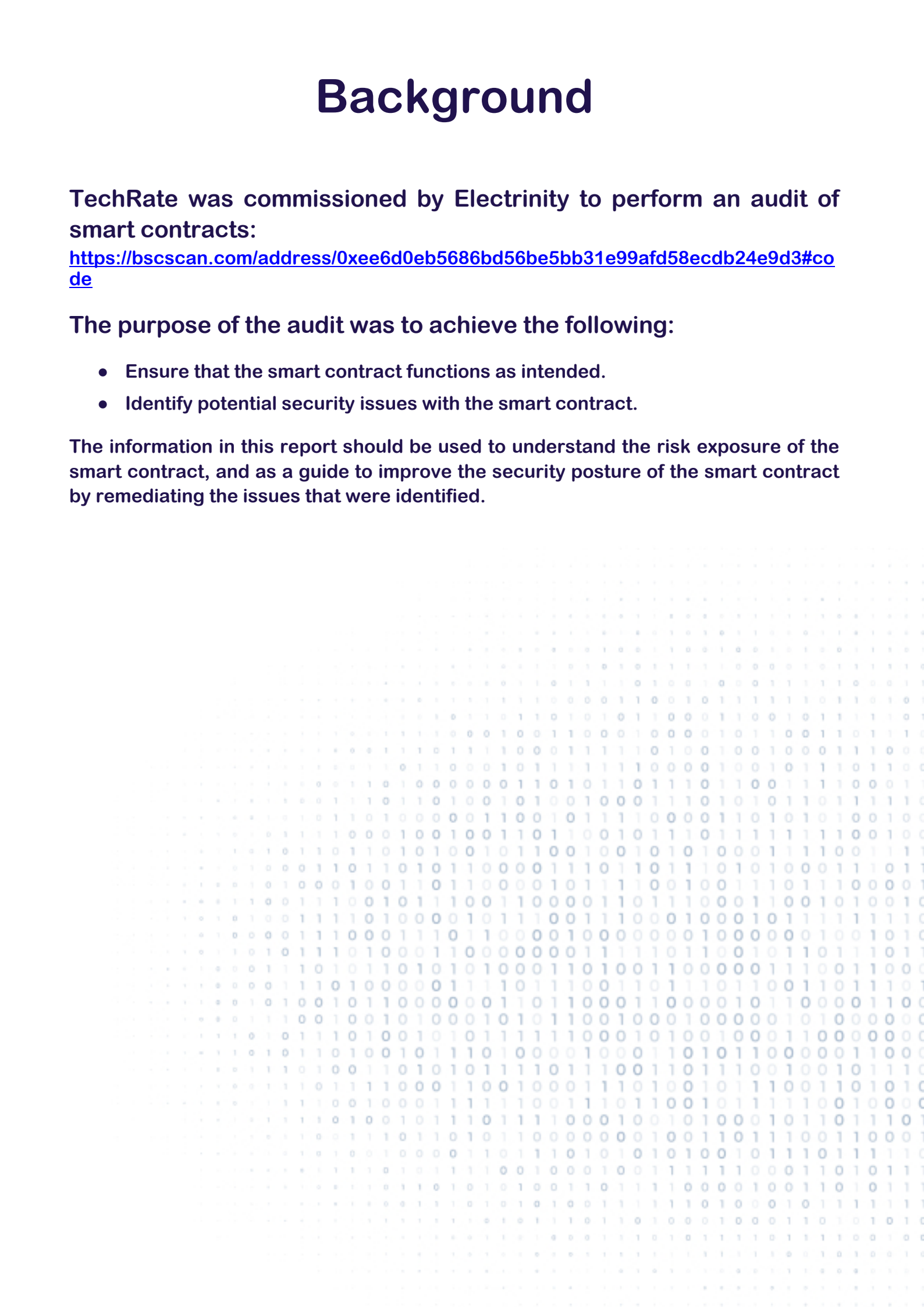
TechRate was commissioned by Electrinity to perform an audit of smart contracts:

https://bscscan.com/address/0xee6d0eb5686bd56be5bb31e99afd58ecdb24e9d3#code

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 improve the security posture of the smart contract by remediating the issues that were identified.



Contracts Details

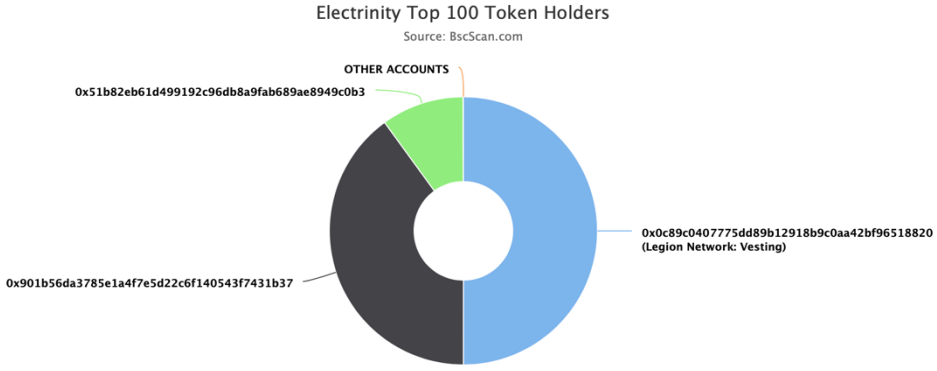
Token contract details for 24.10.2021

Contract name	Electrinity
Contract address	0xEe6D0Eb5686BD56BE5bb31e99afD58EcdB24e9d3
Total supply	100,000,000
Token ticker	ELIT
Decimals	18
Token holders	3
Transactions count	8
Top 100 holders dominance	100.00%
Contract deployer address	0x2B5BC43a1A874B4c6698F1C96E1b5279C37D2502
Contract's current owner address	0x901B56DA3785E1A4f7E5D22C6f140543F7431B37

Electrinity Token Distribution

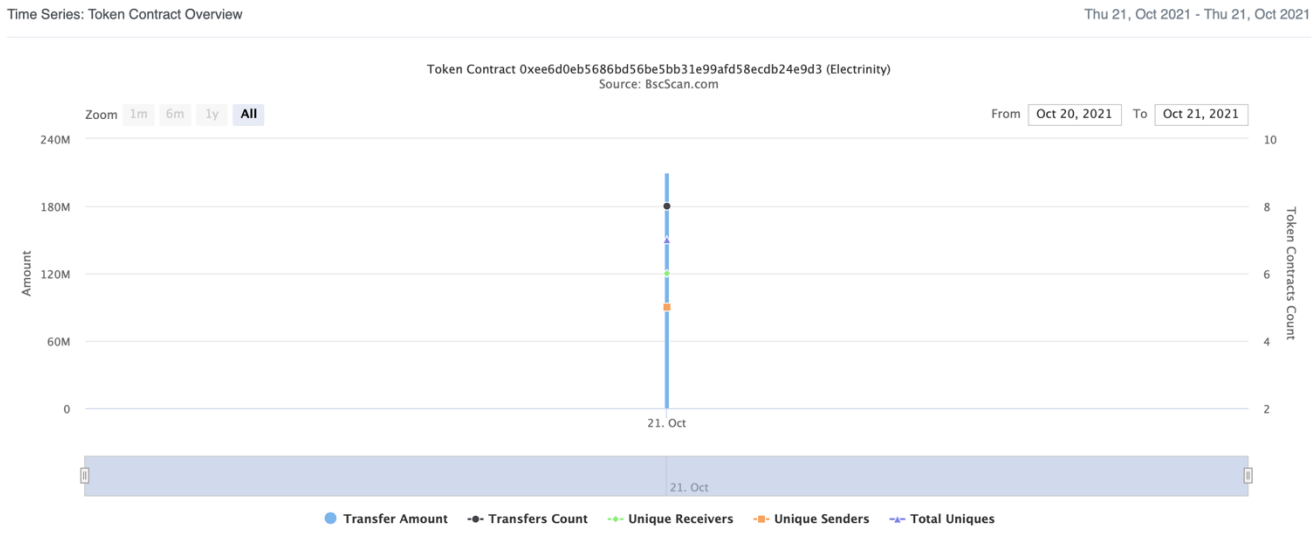
The top 100 holders collectively own 100.00% (100,000,000.00 Tokens) of Electrinity

Token Total Supply: 100,000,000.00 Token | Total Token Holders: 3



(A total of 100,000,000.00 tokens held by the top 100 accounts from the total supply of 100,000,000.00 token)

Electrinity Contract Interaction Details



Electrinity Top 10 Token Holders

Rank	Address	Quantity	Percentage
1	Legion Network: Vesting	50,000,000	50.0000%
2	0x901b56da3785e1a4f7e5d22c6f140543f7431b37	40,000,000	40.0000%
3	0x51b82eb61d499192c96db8a9fab689ae8949c0b3	10,000,000	10.0000%

Contract functions details

+ [Int] IBEP20
  - [Ext] totalSupply
  - [Ext] balanceOf
  - [Ext] transfer #
  - [Ext] allowance
  - [Ext] approve #
  - [Ext] transferFrom #

+ Context
  - [Int] <Constructor> #
  - [Int] _msgSender

+ BEP20 (Context, IBEP20)
  - [Pub] totalSupply
  - [Pub] balanceOf
  - [Pub] allowance
  - [Pub] approve #
  - [Pub] increaseAllowance #
  - [Pub] decreaseAllowance #
  - [Int] _transfer #
  - [Int] _mint #
  - [Int] _burn #
  - [Int] _approve #

+ BEP20Detailed (IBEP20)
  - [Pub] <Constructor> #
  - [Pub] name
  - [Pub] symbol
  - [Pub] decimals
  - [Int] setName #
  - [Int] setSymbol #

+ [Lib] SafeMath
  - [Int] add
  - [Int] sub
  - [Int] sub
  - [Int] mul
  - [Int] div
  - [Int] div

+ Electrinity (BEP20, BEP20Detailed)
  - [Pub] <Constructor> #
    - modifiers: BEP20Detailed
  - [Pub] transferFrom #
  - [Pub] transfer #
  - [Pub] setGovernance #
  - [Pub] setNewName #
  - [Pub] setNewSymbol #
  - [Pub] setEnableTransfers #
  - [Pub] batch #

Issues Checking Status

	Issue description	Checking status
1.	Compiler errors.	Passed
2.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
3.	Possible delays in data delivery.	Passed
4.	Oracle calls.	Passed
5.	Front running.	Passed
6.	Timestamp dependence.	Passed
7.	Integer Overflow and Underflow.	Passed
8.	DoS with Revert.	Passed
9.	DoS with block gas limit.	Low issue
10.	Methods execution permissions.	Passed
11.	Economy model of the contract.	Passed
12.	The impact of the exchange rate on the logic.	Passed
13.	Private user data leaks.	Passed
14.	Malicious Event log.	Passed
15.	Scoping and Declarations.	Passed
16.	Uninitialized storage pointers.	Passed
17.	Arithmetic accuracy.	Passed
18.	Design Logic.	Passed
19.	Cross-function race conditions.	Passed
20.	Safe Open Zeppelin contracts implementation and usage.	Passed
21.	Fallback function security.	Passed

Security Issues

High Severity Issues

No high severity issues found.

Medium Severity Issues

No medium severity issues found.

Low Severity Issues

1. Out of gas

Issue:

- The function batch() uses the loop to transfer for addresses list. Function will be aborted with OUT_OF_GAS exception if there will be a long addresses list.

```
function batch(address [] memory _contributors, uint256[]  memory _balances) public returns(bool)  {
    require(msg.sender == governance, "!governance");
    for (uint256 i = 0; i < _contributors.length; i++ ) {
        _transfer(_msgSender(), _contributors[i], _balances[i]);
    }
    return true;
}
```

Recommendation:
Check that the array length is not too big.

Owner privileges (In the period when the owner is not renounced)

- Owner can change name and symbol of the contract.

```
function setNewName(string memory _newName) public {
    require(msg.sender == governance, "!governance");
    setName(_newName);
}

function setNewSymbol(string memory _newSymbol) public {
    require(msg.sender == governance, "!governance");
    setSymbol(_newSymbol);
}
```

- Owner can enable / disable transfers.

```
function setEnableTransfers(bool _onOrOff) public {
    require(msg.sender == governance, "!governance");
    enableTransfers = _onOrOff;
}
```

Conclusion

Smart contracts contain low severity issues and owner privileges!

TechRate 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.