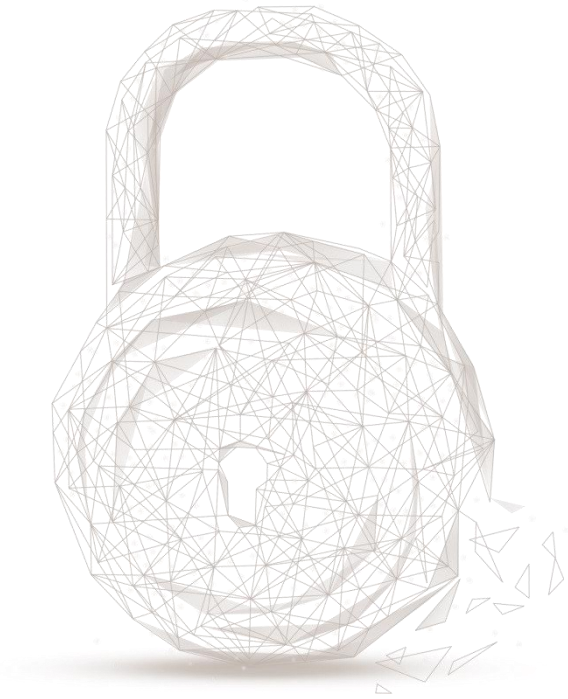
BEOSIN
Blockchain Security

Smart contract security audit report



Audit Number：202105171433

Smart Contract Name：

DVGToken (DVG)

Smart Contract Address：

Fill in after deployment

Smart Contract Address Link：

Fill in after deployment

Start Date：2021.05.17

Completion Date：2021.05.17

Overall Result：Pass (Distinction)

Audit Team: Beosin (Chengdu LianAn) Technology Co. Ltd.

Audit Categories and Results:

No.	Categories	Subitems	Results
1	Coding Conventions	BEP-20 Token Standards	Pass
		Compiler Version Security	Pass
		Visibility Specifiers	Pass
		Gas Consumption	Pass
		SafeMath Features	Pass
		Fallback Usage	Pass
		tx.origin Usage	Pass
		Deprecated Items	Pass
		Redundant Code	Pass
		Overriding Variables	Pass
2	Function Call Audit	Authorization of Function Call	Pass
		Low-level Function (call/delegatecall) Security	Pass
		Returned Value Security	Pass
		selfdestruct Function Security	Pass

3	Business Security	Access Control of Owner	Pass
		Business Logics	Pass
		Business Implementations	Pass
4	Integer Overflow/Underflow	-	Pass
5	Reentrancy	-	Pass
6	Exceptional Reachable State	-	Pass
7	Transaction-Ordering Dependence	-	Pass
8	Block Properties Dependence	-	Pass
9	Pseudo-random Number Generator (PRNG)	-	Pass
10	DoS (Denial of Service)	-	Pass
11	Token Vesting Implementation	-	N/A
12	Fake Deposit	-	Pass
13	event security	-	Pass

Note: Audit results and suggestions in code comments

Audit Results Explained:

Beosin (Chengdu LianAn) Technology has used several methods including Formal Verification, Static Analysis, Typical Case Testing and Manual Review to audit three major aspects of smart contract DVG, including Coding

Standards, Security, and Business Logic. **DVG contract passed all audit items. The overall result is Pass (Distinction).** The smart contract is able to function properly. Please find below the basic information of the smart contract:

1. Basic Token Information

Token name	DVGToken
Token symbol	DVG
decimals	18
totalSupply	Initial supply is 0 (Mintable without cap, burnable)
Token type	BEP-20

Table 1 Token Information

2. Token Vesting Information

N/A

Audited Source Code with Comments

```
// File: contracts/interface/IBEP20.sol

pragma solidity 0.6.4;

interface IBEP20 {
    /**
     * @dev Returns the amount of tokens in existence.
     */
    function totalSupply() external view returns (uint256); // Beosin (Chengdu LianAn) // Declare the interface 'totalSupply'.
    /**
     * @dev Returns the token decimals.
     */
    function decimals() external view returns (uint8); // Beosin (Chengdu LianAn) // Declare the interface 'decimals'.
    /**
     * @dev Returns the token symbol.
     */
    function symbol() external view returns (string memory); // Beosin (Chengdu LianAn) // Declare the interface 'symbol'.
    /**
     * @dev Returns the token name.
     */
    function name() external view returns (string memory); // Beosin (Chengdu LianAn) // Declare the interface 'name'.
```

```
    /**
     * @dev Returns the bep token owner.
     */
    function getOwner() external view returns (address); // Beosin (Chengdu LianAn) // Declare the interface 'getOwner'.

    /**
     * @dev Returns the amount of tokens owned by `account`.
     */
    function balanceOf(address account) external view returns (uint256); // Beosin (Chengdu LianAn) // Declare the interface 'balanceOf'.

    /**
     * @dev Moves `amount` tokens from the caller's account to `recipient`.
     *
     * Returns a boolean value indicating whether the operation succeeded.
     *
     * Emits a {Transfer} event.
     */
    function transfer(address recipient, uint256 amount) external returns (bool); // Beosin (Chengdu LianAn) // Declare the interface 'transfer'.

    /**
     * @dev Returns the remaining number of tokens that `spender` will be
     * allowed to spend on behalf of `owner` through {transferFrom}. This is
     * zero by default.
     *
     * This value changes when {approve} or {transferFrom} are called.
     */
    function allowance(address _owner, address spender) external view returns (uint256); // Beosin (Chengdu LianAn) // Declare the interface 'allowance'.

    /**
     * @dev Sets `amount` as the allowance of `spender` over the caller's tokens.
     *
     * Returns a boolean value indicating whether the operation succeeded.
     *
     * IMPORTANT: Beware that changing an allowance with this method brings the risk
     * that someone may use both the old and the new allowance by unfortunate
     * transaction ordering. One possible solution to mitigate this race
     * condition is to first reduce the spender's allowance to 0 and set the
     * desired value afterwards:
     * https://github.com/ethereum/EIPs/issues/20#issuecomment-263524729
     *
     * Emits an {Approval} event.
     */
    function approve(address spender, uint256 amount) external returns (bool); // Beosin (Chengdu LianAn) // Declare the interface 'approve'.
```

```
    /**
     * @dev Moves `amount` tokens from `sender` to `recipient` using the
     * allowance mechanism. `amount` is then deducted from the caller's
     * allowance.
     *
     * Returns a boolean value indicating whether the operation succeeded.
     *
     * Emits a {Transfer} event.
     */
    function transferFrom(address sender, address recipient, uint256 amount) external returns (bool); // Beosin (Chengdu LianAn) // Declare the interface 'transferFrom'.

    /**
     * @dev Emitted when `value` tokens are moved from one account (`from`) to
     * another (`to`).
     *
     * Note that `value` may be zero.
     */
    event Transfer(address indexed from, address indexed to, uint256 value); // Beosin (Chengdu LianAn) // Declare the event 'Transfer'.
    /**
     * @dev Emitted when the allowance of a `spender` for an `owner` is set by
     * a call to {approve}. `value` is the new allowance.
     */
    event Approval(address indexed owner, address indexed spender, uint256 value); // Beosin (Chengdu LianAn) // Declare the event 'Approval'.
}

// File: openzeppelin-solidity/contracts/GSN/Context.sol

pragma solidity ^0.6.0; // Beosin (Chengdu LianAn) // Fixing compiler version is recommended.

/*
 * @dev Provides information about the current execution context, including the
 * sender of the transaction and its data. While these are generally available
 * via msg.sender and msg.data, they should not be accessed in such a direct
 * manner, since when dealing with GSN meta-transactions the account sending and
 * paying for execution may not be the actual sender (as far as an application
 * is concerned).
 *
 * This contract is only required for intermediate, library-like contracts.
 */
contract Context {
    // Empty internal constructor, to prevent people from mistakenly deploying
    // an instance of this contract, which should be used via inheritance.
    constructor () internal { }
    // Beosin (Chengdu LianAn) // Internal function '_msgSender' for getting the caller address.
```

```
    function _msgSender() internal view virtual returns (address payable) {
        return msg.sender;
    }
    // Beosin (Chengdu LianAn) // Internal function '_msgData' for getting the transaction data.
    function _msgData() internal view virtual returns (bytes memory) {
        this; // silence state mutability warning without generating bytecode - see
https://github.com/ethereum/solidity/issues/2691
        return msg.data;
    }
}

// File: openzeppelin-solidity/contracts/math/SafeMath.sol

pragma solidity ^0.6.0; // Beosin (Chengdu LianAn) // Fixing compiler version is recommended.

/**
 * @dev Wrappers over Solidity's arithmetic operations with added overflow
 * checks.
 *
 * Arithmetic operations in Solidity wrap on overflow. This can easily result
 * in bugs, because programmers usually assume that an overflow raises an
 * error, which is the standard behavior in high level programming languages.
 * `SafeMath` restores this intuition by reverting the transaction when an
 * operation overflows.
 *
 * Using this library instead of the unchecked operations eliminates an entire
 * class of bugs, so it's recommended to use it always.
 */
// Beosin (Chengdu LianAn) // The SafeMath library declares these functions for safe mathematical
operations.
library SafeMath {
    /**
     * @dev Returns the addition of two unsigned integers, reverting on
     * overflow.
     *
     * Counterpart to Solidity's `+` operator.
     *
     * Requirements:
     * - Addition cannot overflow.
     */
    function add(uint256 a, uint256 b) internal pure returns (uint256) {
        uint256 c = a + b;
        require(c >= a, "SafeMath: addition overflow");

        return c;
    }

    /**
```

```
    * @dev Returns the subtraction of two unsigned integers, reverting on
    * overflow (when the result is negative).
    *
    * Counterpart to Solidity's `-` operator.
    *
    * Requirements:
    * - Subtraction cannot overflow.
    */
    function sub(uint256 a, uint256 b) internal pure returns (uint256) {
        return sub(a, b, "SafeMath: subtraction overflow");
    }

    /**
    * @dev Returns the subtraction of two unsigned integers, reverting with custom message on
    * overflow (when the result is negative).
    *
    * Counterpart to Solidity's `-` operator.
    *
    * Requirements:
    * - Subtraction cannot overflow.
    */
    function sub(uint256 a, uint256 b, string memory errorMessage) internal pure returns (uint256) {
        require(b <= a, errorMessage);
        uint256 c = a - b;

        return c;
    }

    /**
    * @dev Returns the multiplication of two unsigned integers, reverting on
    * overflow.
    *
    * Counterpart to Solidity's `*` operator.
    *
    * Requirements:
    * - Multiplication cannot overflow.
    */
    function mul(uint256 a, uint256 b) internal pure returns (uint256) {
        // Gas optimization: this is cheaper than requiring 'a' not being zero, but the
        // benefit is lost if 'b' is also tested.
        // See: https://github.com/OpenZeppelin/openzeppelin-contracts/pull/522
        if (a == 0) {
            return 0;
        }

        uint256 c = a * b;
        require(c / a == b, "SafeMath: multiplication overflow");
```

```
    return c;
}

/**
 * @dev Returns the integer division of two unsigned integers. Reverts on
 * division by zero. The result is rounded towards zero.
 *
 * Counterpart to Solidity's `/` operator. Note: this function uses a
 * `revert` opcode (which leaves remaining gas untouched) while Solidity
 * uses an invalid opcode to revert (consuming all remaining gas).
 *
 * Requirements:
 * - The divisor cannot be zero.
 */
function div(uint256 a, uint256 b) internal pure returns (uint256) {
    return div(a, b, "SafeMath: division by zero");
}

/**
 * @dev Returns the integer division of two unsigned integers. Reverts with custom message on
 * division by zero. The result is rounded towards zero.
 *
 * Counterpart to Solidity's `/` operator. Note: this function uses a
 * `revert` opcode (which leaves remaining gas untouched) while Solidity
 * uses an invalid opcode to revert (consuming all remaining gas).
 *
 * Requirements:
 * - The divisor cannot be zero.
 */
function div(uint256 a, uint256 b, string memory errorMessage) internal pure returns (uint256) {
    // Solidity only automatically asserts when dividing by 0
    require(b > 0, errorMessage);
    uint256 c = a / b;
    // assert(a == b * c + a % b); // There is no case in which this doesn't hold

    return c;
}

/**
 * @dev Returns the remainder of dividing two unsigned integers. (unsigned integer modulo),
 * Reverts when dividing by zero.
 *
 * Counterpart to Solidity's `%` operator. This function uses a `revert`
 * opcode (which leaves remaining gas untouched) while Solidity uses an
 * invalid opcode to revert (consuming all remaining gas).
 *
 * Requirements:
 * - The divisor cannot be zero.
```

```
     */
    function mod(uint256 a, uint256 b) internal pure returns (uint256) {
        return mod(a, b, "SafeMath: modulo by zero");
    }

    /**
     * @dev Returns the remainder of dividing two unsigned integers. (unsigned integer modulo),
     * Reverts with custom message when dividing by zero.
     *
     * Counterpart to Solidity's `%` operator. This function uses a `revert`
     * opcode (which leaves remaining gas untouched) while Solidity uses an
     * invalid opcode to revert (consuming all remaining gas).
     *
     * Requirements:
     * - The divisor cannot be zero.
     */
    function mod(uint256 a, uint256 b, string memory errorMessage) internal pure returns (uint256) {
        require(b != 0, errorMessage);
        return a % b;
    }
}

// File: openzeppelin-solidity/contracts/access/Ownable.sol

pragma solidity ^0.6.0; // Beosin (Chengdu LianAn) // Fixing compiler version is recommended.

/**
 * @dev Contract module which provides a basic access control mechanism, where
 * there is an account (an owner) that can be granted exclusive access to
 * specific functions.
 *
 * By default, the owner account will be the one that deploys the contract. This
 * can later be changed with {transferOwnership}.
 *
 * This module is used through inheritance. It will make available the modifier
 * `onlyOwner`, which can be applied to your functions to restrict their use to
 * the owner.
 */
contract Ownable is Context {
    address private _owner; // Beosin (Chengdu LianAn) // Declare variable '_owner' for storing the contract owner.

    event OwnershipTransferred(address indexed previousOwner, address indexed newOwner); // Beosin (Chengdu LianAn) // Declare the event 'OwnershipTransferred'.

    /**
     * @dev Initializes the contract setting the deployer as the initial owner.
     */
```

```
    constructor () internal {
        address msgSender = _msgSender();
        _owner = msgSender; // Beosin (Chengdu LianAn) // Initialize the owner address.
        emit OwnershipTransferred(address(0), msgSender); // Beosin (Chengdu LianAn) // Trigger the event 'OwnershipTransferred'.
    }

    /**
     * @dev Returns the address of the current owner.
     */
    function owner() public view returns (address) {
        return _owner;
    }

    /**
     * @dev Throws if called by any account other than the owner.
     */
    // Beosin (Chengdu LianAn) // Modifier, require that the caller of the modified function must be owner.
    modifier onlyOwner() {
        require(_owner == _msgSender(), "Ownable: caller is not the owner");
        _;
    }

    /**
     * @dev Leaves the contract without owner. It will not be possible to call
     * `onlyOwner` functions anymore. Can only be called by the current owner.
     *
     * NOTE: Renouncing ownership will leave the contract without an owner,
     * thereby removing any functionality that is only available to the owner.
     */
    function renounceOwnership() public virtual onlyOwner {
        emit OwnershipTransferred(_owner, address(0)); // Beosin (Chengdu LianAn) // Trigger the event 'OwnershipTransferred'.
        _owner = address(0);
    }

    /**
     * @dev Transfers ownership of the contract to a new account (`newOwner`).
     * Can only be called by the current owner.
     */
    // Beosin (Chengdu LianAn) // This function is called by owner to transfer owner permissions to the specified address.
    function transferOwnership(address newOwner) public virtual onlyOwner {
        _transferOwnership(newOwner);
    }

    /**
```

```
     * @dev Transfers ownership of the contract to a new account (`newOwner`).
     */
    function _transferOwnership(address newOwner) internal virtual {
        require(newOwner != address(0), "Ownable: new owner is the zero address"); // Beosin (Chengdu LianAn) // The non-zero address check for 'newOwner'.
        emit OwnershipTransferred(_owner, newOwner); // Beosin (Chengdu LianAn) // Trigger the event 'OwnershipTransferred'.
        _owner = newOwner;
    }
}

// File: contracts/test/ABCToken.sol

pragma solidity 0.6.4;


contract BEP20DVG is Context, IBEP20, Ownable {
    using SafeMath for uint256; // Beosin (Chengdu LianAn) // Using the SafeMath library for mathematical operation. Avoid integer overflow.

    mapping (address => uint256) private _balances; // Beosin (Chengdu LianAn) // Mapping for storing token balance of corresponding address.

    mapping (address => mapping (address => uint256)) private _allowances; // Beosin (Chengdu LianAn) // Mapping for storing the allowance between two addresses.

    uint256 private _totalSupply; // Beosin (Chengdu LianAn) // Declare the variable '_totalSupply' to store the token totalsupply.
    uint8 public _decimals; // Beosin (Chengdu LianAn) // Declare public variable '_decimals' to store the token decimals.
    string public _symbol; // Beosin (Chengdu LianAn) // Declare public variable '_symbol' to store the token symbol.
    string public _name; // Beosin (Chengdu LianAn) // Declare public variable '_name' to store the token name.

    // set of minters, can be this bridge or other bridges
    mapping(address => bool) public isMinter; // Beosin (Chengdu LianAn) // Mapping for storing minter authority of corresponding address.
    address[] public minters; // Beosin (Chengdu LianAn) // Declare public arrays 'minters' to store the minters.
    // Beosin (Chengdu LianAn) // Constructor, initialize basic token information.
    constructor() public {
        _name = "DVGToken";
        _symbol = "DVG";
        _decimals = 18;
        _totalSupply = 0;
        _balances[msg.sender] = _totalSupply;
```

```
        emit Transfer(address(0), msg.sender, _totalSupply); // Beosin (Chengdu LianAn) // Trigger the event 'Transfer'.
    }
    // Beosin (Chengdu LianAn) // Modifier, require that the caller of the modified function must be owner or minter.
    modifier onlyMinter() {
        require((owner() == msg.sender) || (isMinter[msg.sender] == true), "Restricted Access!");
        _;
    }
    // Beosin (Chengdu LianAn) // This function can only be called by owner and is used to add the specified address as minter.
    function addMinter(address _minter) external onlyOwner {
        require(isMinter[_minter] == false, "The address already has minter role");
        isMinter[_minter] = true;
        minters.push(_minter);
    }
    // Beosin (Chengdu LianAn) // This function can only be called via owner and is used to remove mint privileges from the specified address.
    function removeMinter(address _minter) external onlyOwner {
        require(isMinter[_minter], "The address does not have minter role");
        isMinter[_minter] = false;

        for (uint i = 0; i < minters.length; i ++){
            if (minters[i] == _minter) {
                minters[i] = minters[minters.length-1];
                minters.pop();
                break;
            }
        }
    }
    // Beosin (Chengdu LianAn) // Call this function to query all minters address.
    function getAllMinters() external view returns (address[] memory) {
        return minters;
    }

    /// @notice Creates `_amount` token to `_to`. Must only be called by the owner
    // Beosin (Chengdu LianAn) // This function can only be called by owner or minter, and is used to mint tokens to the specified address.
    function mint(address _to, uint256 _amount) public onlyMinter {
        _mint(_to, _amount);
    }

    /// @notice Destroys `_amount` tokens from `_from`. Must only be called by the owner

// Beosin (Chengdu LianAn) // This function can only be called by owner or minter, and is used to destroy tokens at the specified address (approve in advance is required).
function burn(address _from, uint256 _amount) public onlyMinter {
        _burnFrom(_from, _amount);
```

```
}

/**
 * @dev Returns the bep token owner.
 */
function getOwner() external override view returns (address) {
    return owner();
}

/**
 * @dev Returns the token decimals.
 */
function decimals() external override view returns (uint8) {
    return _decimals;
}

/**
 * @dev Returns the token symbol.
 */
function symbol() external override view returns (string memory) {
    return _symbol;
}

/**
* @dev Returns the token name.
*/
function name() external override view returns (string memory) {
    return _name;
}

/**
 * @dev See {BEP20-totalSupply}.
 */
function totalSupply() external override view returns (uint256) {
    return _totalSupply;
}

/**
 * @dev See {BEP20-balanceOf}.
 */
function balanceOf(address account) external override view returns (uint256) {
    return _balances[account];
}

/**
 * @dev See {BEP20-transfer}.
 *
 * Requirements:
```

```
     *
     * - `recipient` cannot be the zero address.
     * - the caller must have a balance of at least `amount`.
     */
    function transfer(address recipient, uint256 amount) external override returns (bool) {
        _transfer(_msgSender(), recipient, amount); // Beosin (Chengdu LianAn) // Call the internal function '_transfer' to transfer tokens.
        return true;
    }

    /**
     * @dev See {BEP20-allowance}.
     */
    function allowance(address owner, address spender) external override view returns (uint256) {
        return _allowances[owner][spender];
    }

    /**
     * @dev See {BEP20-approve}.
     *
     * Requirements:
     *
     * - `spender` cannot be the zero address.
     */
    // Beosin (Chengdu LianAn) // Beware that changing an allowance with this method brings the risk that someone may use both the old and the new allowance by unfortunate transaction ordering.
    // Beosin (Chengdu LianAn) // Using function 'increaseAllowance' and 'decreaseAllowance' to alter allowance is recommended.
    function approve(address spender, uint256 amount) external override returns (bool) {
        _approve(_msgSender(), spender, amount); // Beosin (Chengdu LianAn) // Call the internal function '_approve' to implement the approve operation.
        return true;
    }

    /**
     * @dev See {BEP20-transferFrom}.
     *
     * Emits an {Approval} event indicating the updated allowance. This is not
     * required by the EIP. See the note at the beginning of {BEP20};
     *
     * Requirements:
     * - `sender` and `recipient` cannot be the zero address.
     * - `sender` must have a balance of at least `amount`.
     * - the caller must have allowance for `sender`'s tokens of at least
     * `amount`.
     */
    function transferFrom(address sender, address recipient, uint256 amount) external override returns (bool)
{
```

```
        _transfer(sender, recipient, amount); // Beosin (Chengdu LianAn) // Call the internal function '_transfer' to transfer tokens.
        _approve(sender, _msgSender(), _allowances[sender][_msgSender()].sub(amount, "BEP20: transfer amount exceeds allowance")); // Beosin (Chengdu LianAn) // Call the internal function '_approve' to update the allowance value of the token sender to the caller.
        return true;
    }

    /**
     * @dev Atomically increases the allowance granted to `spender` by the caller.
     *
     * This is an alternative to {approve} that can be used as a mitigation for
     * problems described in {BEP20-approve}.
     *
     * Emits an {Approval} event indicating the updated allowance.
     *
     * Requirements:
     *
     * - `spender` cannot be the zero address.
     */
    function increaseAllowance(address spender, uint256 addedValue) public returns (bool) {
        _approve(_msgSender(), spender, _allowances[_msgSender()][spender].add(addedValue)); // Beosin (Chengdu LianAn) // Call the internal function '_approve' to increase the allowance between two addresses.
        return true;
    }

    /**
     * @dev Atomically decreases the allowance granted to `spender` by the caller.
     *
     * This is an alternative to {approve} that can be used as a mitigation for
     * problems described in {BEP20-approve}.
     *
     * Emits an {Approval} event indicating the updated allowance.
     *
     * Requirements:
     *
     * - `spender` cannot be the zero address.
     * - `spender` must have allowance for the caller of at least
     * `subtractedValue`.
     */
    function decreaseAllowance(address spender, uint256 subtractedValue) public returns (bool) {
        _approve(_msgSender(), spender, _allowances[_msgSender()][spender].sub(subtractedValue, "BEP20: decreased allowance below zero")); // Beosin (Chengdu LianAn) // Call the internal function '_approve' to decrease the allowance between two addresses.
        return true;
    }
```

```
    /**
     * @dev Moves tokens `amount` from `sender` to `recipient`.
     *
     * This is internal function is equivalent to {transfer}, and can be used to
     * e.g. implement automatic token fees, slashing mechanisms, etc.
     *
     * Emits a {Transfer} event.
     *
     * Requirements:
     *
     * - `sender` cannot be the zero address.
     * - `recipient` cannot be the zero address.
     * - `sender` must have a balance of at least `amount`.
     */
    function _transfer(address sender, address recipient, uint256 amount) internal {
        require(sender != address(0), "BEP20: transfer from the zero address"); // Beosin (Chengdu LianAn)
// The non-zero address check for 'sender'.
        require(recipient != address(0), "BEP20: transfer to the zero address"); // Beosin (Chengdu LianAn)
// The non-zero address check for 'recipient'.
        _balances[sender] = _balances[sender].sub(amount, "BEP20: transfer amount exceeds balance"); //
Beosin (Chengdu LianAn) // Update the sender address token balance.
        _balances[recipient] = _balances[recipient].add(amount); // Beosin (Chengdu LianAn) // Update the
recipient address token balance.
        emit Transfer(sender, recipient, amount); // Beosin (Chengdu LianAn) // Trigger the event
'Transfer'.
    }

    /** @dev Creates `amount` tokens and assigns them to `account`, increasing
     * the total supply.
     *
     * Emits a {Transfer} event with `from` set to the zero address.
     *
     * Requirements
     *
     * - `to` cannot be the zero address.
     */
    function _mint(address account, uint256 amount) internal {
        require(account != address(0), "BEP20: mint to the zero address"); // Beosin (Chengdu LianAn) //
The non-zero address check for 'account'.
        _totalSupply = _totalSupply.add(amount); // Beosin (Chengdu LianAn) // Update the totalSupply of
token.
        _balances[account] = _balances[account].add(amount); // Beosin (Chengdu LianAn) // Update the
account address token balance.
        emit Transfer(address(0), account, amount); // Beosin (Chengdu LianAn) // Trigger the event
'Transfer'.
    }

    /**
```

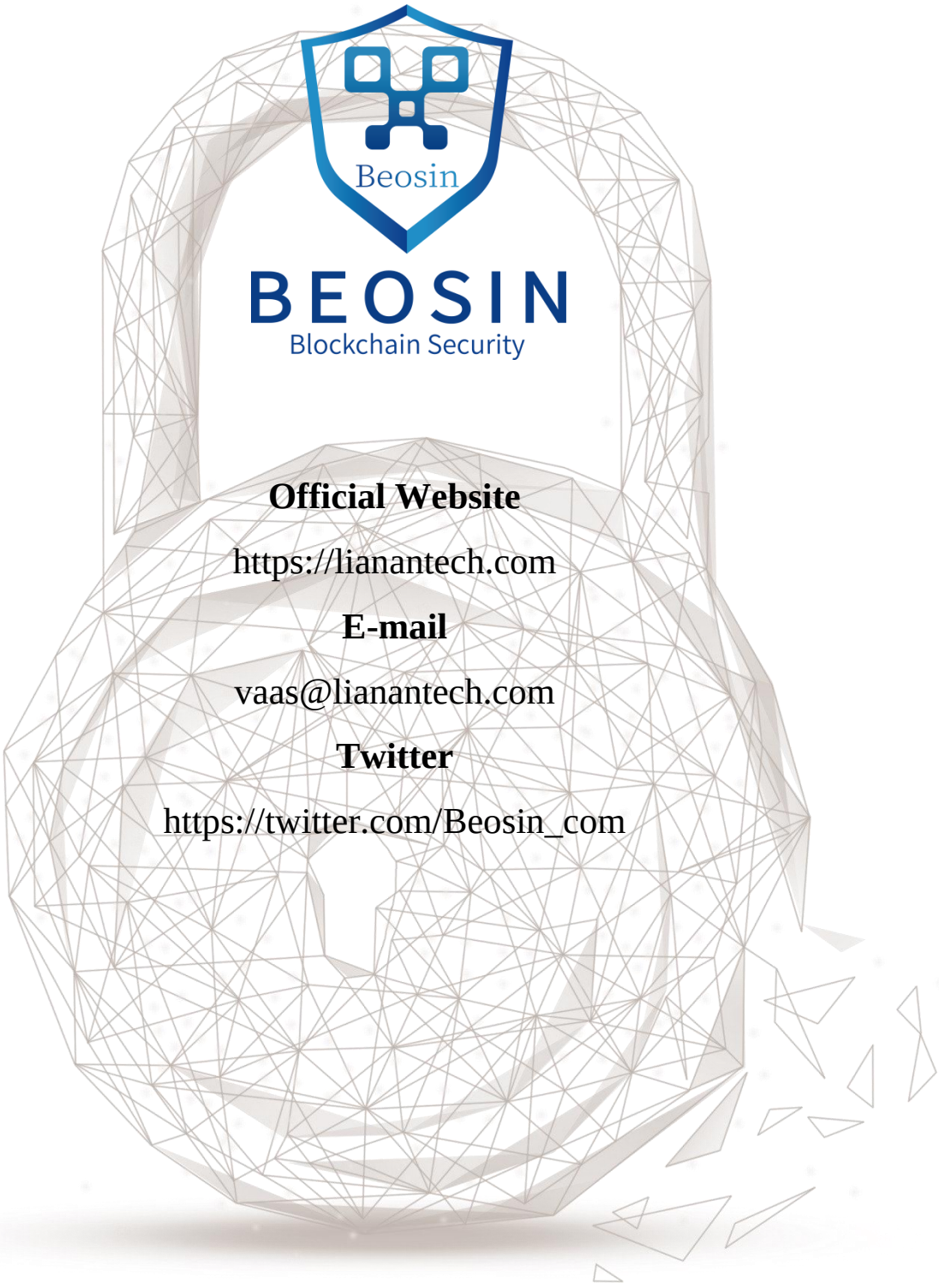
```
    * @dev Destroys `amount` tokens from `account`, reducing the
    * total supply.
    *
    * Emits a {Transfer} event with `to` set to the zero address.
    *
    * Requirements
    *
    * - `account` cannot be the zero address.
    * - `account` must have at least `amount` tokens.
    */
   function _burn(address account, uint256 amount) internal {
      require(account != address(0), "BEP20: burn from the zero address"); // Beosin (Chengdu LianAn) // The non-zero address check for 'account'.
      _balances[account] = _balances[account].sub(amount, "BEP20: burn amount exceeds balance"); // Beosin (Chengdu LianAn) // Update the account address token balance.
      _totalSupply = _totalSupply.sub(amount); // Beosin (Chengdu LianAn) // Update the totalSupply of token.
      emit Transfer(account, address(0), amount); // Beosin (Chengdu LianAn) // Trigger the event 'Transfer'.
   }

   /**
    * @dev Sets `amount` as the allowance of `spender` over the `owner`s tokens.
    *
    * This is internal function is equivalent to `approve`, and can be used to
    * e.g. set automatic allowances for certain subsystems, etc.
    *
    * Emits an {Approval} event.
    *
    * Requirements:
    *
    * - `owner` cannot be the zero address.
    * - `spender` cannot be the zero address.
    */
   function _approve(address owner, address spender, uint256 amount) internal {
      require(owner != address(0), "BEP20: approve from the zero address"); // Beosin (Chengdu LianAn) // The non-zero address check for 'owner'.
      require(spender != address(0), "BEP20: approve to the zero address"); // Beosin (Chengdu LianAn) // The non-zero address check for 'spender'.

      _allowances[owner][spender] = amount; // Beosin (Chengdu LianAn) // The allowance which 'owner' allowed to 'spender' is set to 'amount'.
      emit Approval(owner, spender, amount); // Beosin (Chengdu LianAn) // Trigger the event 'Approval'.
   }

   /**
    * @dev Destroys `amount` tokens from `account`.`amount` is then deducted
```

```
     * from the caller's allowance.
     *
     * See {_burn} and {_approve}.
     */
    function _burnFrom(address account, uint256 amount) internal {
        _burn(account, amount); // Beosin (Chengdu LianAn) // Call the internal function '_burn' to burn tokens.
        _approve(account, _msgSender(), _allowances[account][_msgSender()].sub(amount, "BEP20: burn amount exceeds allowance")); // Beosin (Chengdu LianAn) // Call the internal function '_approve' to update the allowance value of the token sender to the caller.
    }
}
// Beosin (Chengdu LianAn) // Recommend the main contract to inherit 'Pausable' module to grant owner the authority of pausing all transactions when serious issue occurred.
```



Official Website

https://lianantech.com

E-mail

vaas@lianantech.com

Twitter

https://twitter.com/Beosin_com